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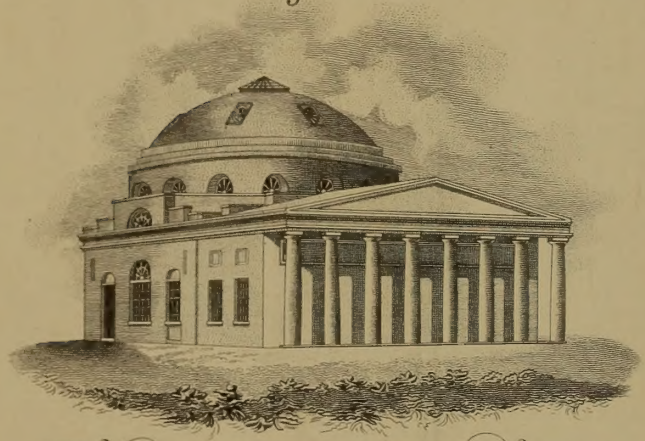

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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UNIVERSITY OF MARYLAND

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UNIVERSITY OF MARYLAND

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(1) Faded

AN

Inaugural Dissertation

ON

Cholera Infantum

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

H. L. Williamson

Of

Panola Co., Mississippi

Session of 1868 & 9

MD
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Most respectfully dedicated to H. S. Howard, M. D., as a token of respect and appreciation of his successful efforts as a Teacher of the Science of Medicine

William L. Williamson.

Cholera Infantum

Though this is a disease which is far most prevalent on this Continent yet it cannot be considered as peculiar to it for it occurs in other parts of the world and is occasionally recognised and treated as a distinct disease in Europe. Indeed it may and doubtless often does occur even in this Country and perhaps more frequently in Europe when it is grouped in the category of gastro-enteric irritation or inflamation to which infancy is heir. From its common prevalence during the hotter months

among children of a certain age ~~that~~ it is popularly known as "Summer Complaint of Infants." And in large cities especially those of the North it is the mothers dread until her child has passed the critical period for as its name implies it is almost exclusively a disease of infancy. Each Summer brings its disease and sable darts of death as well as its fruits and flowers but to the little innocents of crowded lanes courts and alleys where population is thickest and ventilation most imperfect perhaps it wafts no poison on its morbid breath more fatal than that which gen-

erates Cholera Infantum. Causes
The most potent predisposing cause
is excessively warm weather hence the
disease occurs far most frequently
during the months of July and Aug-
ust and is scarcely ever met with in
a mean temperature. Though heat must
be regarded as one of the paramount
causes it is by no means the exclusive
one, for it has been proven that this
in the open air of the country un-
combined with the animal effluvia
generated in crowded populations is
inadequate to produce this disease
That heat is not the sole cause of
this disease is also patent from the

Somewhat strange fact of it occuring more frequently in N. York and Philadelphia than in Southern cities and that country places even in miasmatic districts of the extreme South are entirely free from it. Age greatly predisposes to this affection for it rarely occurs before the fourth month or after the twenty fourth month. Sex too is thought to have an influence as males have been observed to contract it more frequently than females. Dentition is a powerful predisposing cause, and the disease rarely occurs before this process has began and certainly very rarely after it is complete. Children are

more frequently attacked during this period because the follicles of the mucous membrane of the alimentary canal are in the highest stage of development and it is in them that the disease has its seat. Autopsy has shown that these follicles appear synchronous with the teeth and the activity of their secretion has very rationally been imputed the prime cause of the Diarrhea which so frequently occurs about the period of dentition. Men whose accurate observations make their opinions worthy of note state that the disease seems to be hereditary. Children of most delicate constitutions are most

subject to it. Artificial food may very appropriately be considered an exciting cause especially vegetable and farinaceous. The use of too indiscriminate diet is a very common exciting cause. Pathological Characters. The most common are ulceration and undue development of the follicular apparatus of the Stomach and intestines. Inflamation of the mucous membrane of the Stomach is in the majority of cases due to a functional derangement of that organ. Older writers spoke of having observed softening of the mucous membrane of the Stomach but we now know that the Gastric juice has the

power of accomplishing this which is proven by autopsy of cases in which the Stomach was known not to be involved yet its inner coat so softened as to be scraped off by the nail Peyers glands are rarely affected but the mucous membrane of large intestines commonly inflamed and the follicular disease generally extensive in them. It is less extensive in the small intestines and but seldom present in the Stomach. The Liver Spleen and Kidneys are generally healthy but sometimes fatty matter is discovered in the Liver and it is also occasionally found to be increased in volume. The veins

of the Pia mater are sometimes injected and the substance of the Brain presents spots of blood. Occasionally serous fluid is seen in the sub arachnoid space. Symptoms. The most prominent are vomiting and purging. The attack is often preceded for a longer or shorter period by Diarrhea. In fatal cases of short duration the vomiting usually continues to the end and when the onset of the disease is sudden and violent it is attended with almost incessant vomiting and purging and great prostration. The vomiting is more or less violent according to the attack and if the case does not terminate fatally

in one two or three days it then begins to occur more infrequently or at longer intervals. Diarrhea is the most important symptom. At first the evacuations are frequent and of the consistence of mush. Later they are more fluid varying according to the food taken. The discharges pass from a dark to a light yellow and very soon to a dark green color. Or it may be light and mixed with lumps of undigested cabiea. They are sometimes putrid and of a dishwater appearance or they may have an acid odor and all the characters of Dysenteric dejections. The quantity of these discharges varies

In grave cases they are serious especially in the early stages. The number of stools are irregular. They may mount up to fifteen or even thirty but rarely over six or eight in twenty four hours. During the first few days the abdomen is seldom tender on pressure but it afterward becomes tympanitic and very tender. The countenance in the early stages is good but later it becomes anxious and flushed. The little patient is pale during the remission of fever and when the fever is entirely absent the child becomes languid and pale the eyes are more or less sunken the whole surface becomes either cold and clammy or harsh

and dry. The appetite is variable. In mild cases it is simply diminished but in violent cases it is lost entirely. There is almost always thirst which is sometimes insatiable and the infant will often take more milk than its little stomach can bear for the purpose of allaying thirst. The tongue is colored by a brownish red fur and sometimes becomes very red and polished. Fever scarcely ever makes its appearance during the first few days in mild cases but in grave ones it is observed from the first of the attack. It is remittent in character and has a tendency to exacerbate in the evenings and sometimes ends in collapse

The pulse becomes greatly accelerated in violent cases and in some instances it becomes even rapid and intermittent especially in those cases which prove fatal. Respiration is free and regular unless there is some pulmonary complication. The eyes are half closed during sleep and there is often exceeding restlessness rolling of the head from side to side and tossing of the body in various directions and chewing motion of the lower jaw with moans and plaintive cries. Finally coma may set in and close the scene not unfrequently with convulsions or hydrocephaloid symptoms. The feet often become oedematous and spots appear on the surface of the body

and the anus becomes excoriated. The duration of the disease is variable. It may be arrested in two or three weeks but frequently continues until cold weather sets in or the patient is removed to a more salubrious climate. Diagnosis. This is comparatively easy in the majority of cases. The season at which it appears coincident with vomiting and purging at first render it unmistakeable, but in a later period it may be mistaken for Tubercular Mesenteritis and in a still later period there is constipation. When in doubt as to what the disease is always treat as one of exhaustion. It may also be confounded with Typhoid Fever but may be distinguished from this

disease by the absence of gurgling in the right iliac region also of the rose colored lenticular spots. Prognosis. This is a very serious disease but if it occurs in children in the better walks of life and late in the process of dentition the prognosis may be considered favorable. But if on the other hand the child be young and the process of dentition just beginning and in the lower classes prognosis is unfavorable. When vomiting and purging are incessant pulse small and frequent it is also unfavorable. When very marked drowsiness occurs the disease will almost inevitably terminate in death but there is always hope whilst a vestage of life remains.

Treatment should be first prophilactic
Children liable to be exposed to it should
removed to the country as soon as the
disease makes its appearance in the city.
Where this is impracticable they should be
sent as often as possible in the open air
during the coolest part of the day. If the
child attacked live on an unhealthy palace
in the country it should be removed if
but to a neighboring house. Sleeping apart-
ment must be kept cool and the child
made to sleep on a matress. Dress should
consist chiefly of a muslin dress and
petticoat. The only flannel admissible is
a shirt. Woollen garments must always
be discarded during the heat of Sum-

mus. Flannel may be added if the weather become cool. Diet is of much moment after the disease has set in and should always be the mothers milk if she is possibly able to nurse her child. If not. a wet nurse should be procured or if this is inconvenient the milk of an ass may be employed as it most nearly resembles human milk chemically. And next preferable is goats milk but if cows milk should be used it must be diluted and sugar added. No child should be taken from the breast until it has passed its second Summer nor between the month of March and September. Hygienic Treatment. The Sea coast affords most advantages but almost any change of incidence proves

beneficial. Often simply removal with warm bath will effect a cure without any other treatment. Water should be given freely, for children often suffer for it when teething. When the disease has been long protracted the infant often refuses all preparations of milk especially if it be nine or ten months old then light soup with rice and some light meat must be furnished. Therapeutical Treatment When the disease has been caused by improper diet aromatic Syrup of Rhubarb with Magnesia and a few drops of the Deodorized Tinct of Opium may be given in connection with a tepid bath bis-die and often proves beneficial. When the onset is very violent with vomiting and purging and the stomach remains oppressed

by a recent oneal Ipkeac is strongly indicated
Calomel in doses of one sixteenth of grain with
sugar given every one or two hours until the
stools show its action is an excellent remedy
Lime aq will allay the irritability of the
stomach and is also nourishing. Lemonade in
teaspoonful doses often repeated is beneficial in
some instances. Acetate of Lead is said to allay
the irritability of the stomach when every
thing else fails. It should be given in the
dose of two or three grains with the Deodorized
Tinct of Opium when the discharges are large
watery and loose. Creasote in one fourth grain
doses will often relieve the vomiting. Aromatic
Sulphuric Acid will accomplish the same.
The acidity of the primae viae may be

corrected by chalk crabs eyes ℞. An aromatic should be given with each dose of chalk. When drowsiness occurs leeches applied behind the ears generally proves beneficial. Mercurial purges and cold applications to the head are valuable agents. As soon as the febrile symptoms abate a blister may be applied to the Nuchae but must only remain long enough to redden the skin. Tepid baths and Alcoholic stimulants are indispensable when Hydrocephaloid condition arises. In advanced stages when the Diarrhea is a prominent symptom a change of air diet ℞ are chiefly to be relied upon. Change of air is also indispensible in those cases in which there is but little Diarrhea and great prostration. When the discharges are

thin and attended with great flatulence Oil of Turpentine is an invaluable agent. Iron and Bismuth have recently been introduced into the treatment of this disease with good results. Liq Ferri Citratis is a good preparation to bring in use here. given in one or two drop doses increased to three drops tid die for the chronic Diarrhea. There is no period of this disease so desperate as that all hope should be relinquished. There is no disease in which the fond mother ever hopeful ever last to despair of the life of her darling babe is more frequently blessed with the happy issue to which she has looked forward with such fearful solicitude and in which she has so often seen an infant rescued from the very jaws of death as disease Cholera Infantum

AN

Inaugural Dissertation

ON

Typhoid Fever

Submitted to the Examination

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OF

PHYSIC,

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UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Virgil H. B. Lilly

of

Adams County Pa.

Session of 1869

A treatise on typhoid fever

Typhoid fever is one of the forms of fever that is marked by the land of continued fever. The name typhoid fever is applied to it as many writers. The German writers, apply the names of abdominal typhus. It has also received the name of typhus with nervous fever, enteric, mesenteric, continued fever. Dr. Wood suggests the name of enteric fever. Most of these names are directed principally to the abdominal symptoms which are so characteristic of this form of the disease of

lymph glands, which are
situated in the neck. Usually
the pulsations are conducted to
the touch. They may be
observed usually as the blood
flows. The mode of access of the
pus is generally very gradual,
but in some cases it may
be very sudden. It is almost
impossible for the patient
to fix with accuracy the
time when the pus began
to form, since the pain begins
little in what has before
consists the only sign for the out
pus. He has only my
his accustomed degree of health

Thus may be both accounted
for by bodily languor and
an indisposition to attend to
the duty occupation. Like most
acute diseases, typhoid is entirely
free in disease is seldom
chiefly manifested during the
most necessary and urgent
interests. Should it be associated
with these symptoms of typhoid
which are generally confined
to the fourth year, there
will then be shall the death
occur most frequently in the
morning. The frequently occurring
in severity during the first
quarter and most frequently

[illegible] is daily being [illegible]
and [illegible] the patient [illegible]
[illegible] and [illegible] — [illegible]
The speaking of the [illegible] of
of typhoid fever I will have
to recapitulate what I said on
what I said in speaking of
the nature of the fever. The
symptoms of typhoid fever are
[illegible] headache, [illegible]
the pain is severe and not
relieved by the headache powders,
the tongue is red at the tip
where the cuticle is removed.
There is pain on pressure in
the stomach. If I cut a piece
of gum and [illegible] for

[illegible]

second [illegible] It remains a
few days and then appears
to reappear on one the post
[illegible] [illegible] of
[illegible] the [illegible] [illegible]
[illegible] [illegible] [illegible]
indifferent [illegible] [illegible]
of [illegible]. There is [illegible]
a [illegible] and the [illegible]
so that is [illegible]
The [illegible] [illegible]
a [illegible] or [illegible] [illegible]
and in some case that a
lack of [illegible] appears
of [illegible] [illegible]
common, [illegible] [illegible]
[illegible] the post [illegible]

back is strong and [illegible]
[illegible] after the first week
or [illegible] [illegible] after
the [illegible] and [illegible]
the [illegible]. [illegible]
is sometimes accompanied
by a [illegible] that [illegible]
[illegible] of the City of New York.
[illegible] [illegible] [illegible] which
[illegible] [illegible] [illegible] [illegible]
much light upon the [illegible]
of [illegible], [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] the headache is attended
with pain in the back and
limbs. [illegible] [illegible] [illegible] [illegible]

patients physical system
results out of the said
imaginary and unknown
diseases that the fancy
physicians were accurate
and which not unfrequently
baffles the skill even of
Hippocrates and Hippocrates.
The concept called Phrenic
was apply sign & cit out
like from cases you may
guide in force the concept
cure it. When is the vacillation
of the pulse subject
to the dream. The stronger
is mainly consciousness of the
pulse speeds out hundred and

twenty beats per minute.
The mean frequency of the
pulse in adults varies with
persons, what is usually felt
of very hard and steady than
a pulse that can be counted twenty
times. When in the vicinity of
most of the only is the sun.
At certain periods the heart
of the body may and good
will may even pulse below
the standard of health.
The stroke is usually sharp
and of a high specific
gravity; but at the approach
of convalescence it becomes
abundant and of a less

spasmodic growth becomes
affected a colour from
[illegible] in very growth
of the plant. It therefore
shall [illegible] mention
three causes of this disease
viz. Age, stage of vegetation,
and [illegible] to appear
to prevail principally in
the autumn. It is in the
summer months the [illegible]
of this disease the prevailing
autumn. As regards age young
persons are in particular
liable to it. "Bartlett" pears
are much an hybrid and
affected pears. Says that

persons between the age of
fifteen and thirty years
are addicted, and also
it is but seldom may
after fifty years of age. It is
said that the hands of
those droppers after attain
the age of thirty appear
not only affected after
twenty years of age. This
fact accounts for the
absence of them because
after fifty years. Some authors
contend that among
soldiers it is rare to see
the contagion of hand
pens. Others do not agree

agree; but recent [illegible]
leaves it [illegible]
[illegible] the [illegible] of
typhoid fever are [illegible]
ten will [illegible] of
[illegible] of [illegible] which
of typhoid fever have been
opened which appeared
to have resulted from
the emanations from
obstructed drains and
cesspools, or from drinking
water tainted with
sewage. The fever resulting
from this cause has
received the name of
pythogenic typhoid fever.

be caused by poisons
although this disease may
be communicated from
the sick to the well yet
under ordinary circumstances
it is not apparent by
contagion. It is only if it is
not communicated to
those who have such
contact with persons
patients. Some authors suppose
when communicated that
the special poison is
derived from the
intestinal discharges.
The period of incubation
is from one to two weeks.

Bartlett says, the period
of incubation has been
known to have been
but twenty-four hours.
Dugeon speaks from
commencement often continuing
and with preceeding
symptoms more violent
than those of typhus. The
aspect of the spread patches
though many is less dark
than that of the typhus
patient; and the eruption
is less stiff and more
uniform to touch than in
the typhus. It is more
elevated and the patient

is more characteristic of
cancer of the liver.
Diarrhoea is a characteristic
symptom of this form
of cancer and is an early
symptom and. Sometimes
it does not occur at all.
The stools are clay colored. Abdominal
pain frequently precedes or
accompanies it. The abdomen
on pressure is found to
be painful and tender
very much distended. Usually
there is retained in the
first stages a slight
gurgling movement from
beyond and you in the

beds which overlie a
bedded by phosphate are
passed in the region of
the Cacum. This syndrome
is not common in other
districts and is rare in
typhoid fever. Typhoid fever
occurs most frequently during
fall and winter when it
tends to attack. Men
under thirty years of age.
Typhoid fever may occur only
at any season of the year
and at any age. Besides
at the same it commonly
in typhoid fever in typhoid
it is very rare. In typhoid fever

there is [illegible] tenderness
on pressure of the abdomen
especially the right side.
In typhus there is [illegible]
tenderness. Typhus fever is
[illegible] by [illegible] distension
requiring [illegible] relaxed
the patient [illegible]
[illegible] bowels and abdomen
of the typhus but [illegible] the
abdomen the patient [illegible]
be benefited [illegible]
on getting out of bed
[illegible] removed by typhoid
fever. Tympanitic distention
of the abdomen is present
in typhus distention of

the abdomen [illegible]
In typhoid there is a
tendency to [illegible]
constipation. In typhus the
bowels are [illegible]
tion. In typhoid a [illegible]
eruption [illegible] slightly elevated;
the [illegible]
[illegible] pressure.
In typhus sometimes a [illegible]
red eruption of small [illegible]
[illegible] the [illegible]
imperfectly [illegible]
pressure. In typhoid petechiæ
[illegible] are [illegible] in typhus.
A [illegible] in typhoid
from the [illegible]

towards the feet is
different from the body but
only to the feet the hands
and arms. In typhus infantum
congestion of the face and
body is of a dark red
purple or deep blue
Professor Dr Smith of Edinburgh
would seem to have no
much regard of infantile
upon the subsequent
characters of the disease.
In the words of the Bard
Dion of seventy three years
on which the event was
sudden and unexpected
passed forth which there

can hardly death in only
thirty nine cases in which
the pulse was ascertained. A pulse
of one hundred and twenty
or a hundred and thirty
constitutes an unfavorable
sign, especially if vomiting
with other grave symptoms.
A noisy or hissing sound
and irregular respiration
are an unfavorable symptom.
If delirium occurs at an
early period and is of
a wild and violent
kind it is a very bad symp-
tom, and from the
unfavorable symptoms.

which [illegible]
agitation, [illegible]
[illegible] Mr's [illegible] of the [illegible]
[illegible] on the [illegible]
[illegible] [illegible]
[illegible] and a [illegible]
with hoarse and a
fluttering pulse is usually
a forerunner of [illegible]
[illegible] [illegible] [illegible]
indicates speedy dissolution;
on the other [illegible]
[illegible] of intelligent
expression of the features
which had been [illegible],
The [illegible] of the
listless eye is quite [illegible]

a very dry cracked
or blackish tongue is
certainly more unfavorable
than one which is moist
with a fair mouth
or yellowish coat. Diarrhoea
if urgent and continued
is a very unfavorable sign
a patient has had more
than one or two copious
stools in twenty four hours
it is not unfavorable.
It sometimes happens that
a very well marked
amelioration of all the
symptoms takes place
immediately before

days of disease constitutes
[illegible] apparent convalescence
and that this amendment
[illegible] the
return in an aggravated form
of the symptoms which
had subsided or commencement
in [illegible] the fever of
relapse is almost invariably
followed by death
Treatment. As to the treatment
of typhoid fever [illegible]
[illegible] [illegible] differed [illegible]
favoring depletion others
repletion. The system of
depletion has many dis-

[illegible] [illegible] [illegible]
[illegible] to [illegible] the [illegible] of
[illegible] of [illegible] [illegible]
which [illegible] generally precedes
bleeding. But analysis has
[illegible] shown that
the theory of [illegible] is
the most favourable. In
concluding the remarks
on the symptoms of typhoid
fever I spoke of the
debility [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
therefore would be to
[illegible] [illegible] [illegible] [illegible] be
[illegible] [illegible] [illegible] of the
disease is certainly beginning

as it is the concept and
it should not in any instance
be a parasite, yet to
the use of [illegible] which
been another proof of
[illegible] would upset
it also from my list of
[illegible] as it greatly
disfigurishes the [illegible]
and [illegible] [illegible] the
red globules and by [illegible]
[illegible] the blood and lead.
[illegible] [illegible] that red globules
I would [illegible] my
[illegible] the [illegible] [illegible]
[illegible] [illegible] by the
[illegible] [illegible] [illegible] [illegible] [illegible]

that I am fully persuaded
to the use of [illegible]
in this disease [illegible]
such good results to
the gentleman [illegible]
I have good grounds I am
confident I cannot be
wrong. The medical treatment
consists in tonicing the
patient the sulphites are
not to be relied on
if there is an constipated
stomach an emetic is
useful. Cold in liquid
form will do good
when the stomach is dry
and irr. When there is

vigilance an opiate will be
useful by procuring wholesome
sleep. If the delirium is
slight or moderate it does
not call for remedies, but
if persistent as a symptom
as by getting out of bed
and constant talking the
necessity of using opiate is
[illegible]
requires often to be
restrained; for this purpose
opium must accompanied
[illegible] by the mouth
or rectum [illegible]
though although generally
fasting is [illegible] to
[illegible]

palliative measures, hypodermic injections, etc. The following are highly recommended. Hygienic and supporting measures form the most important part of the treatment of typhoid fever. The former consists in complete ventilation, cleanliness and regulation of temperature, which should not be allowed to rise above 105° F. Alkaline or rice water or barley water acidulated with lemon or orange juice may be used, care being taken that the gruel taken at a time

to not appear to
incommode the sheath.
In a case of uncomplicated
hydrocele from the patient
is in a situation not
unlike that of a person
in danger of drowning
not for fear of the
disease it is because the
strength and vigour of
the sheath is entirely lost,
and it is dead to the
shadow of a different feeling.
Thus ends my brief
I would earnestly recommend
the adopting the following
treatment. The regarding

consists of some water
or tea and nourishment,
especially the latter. The [illegible]
of feeding fevers was specially
enforced by Graves, which
has led many practitioners
to avoid the dangers of
inanition and it has also
been strongly enforced by the
eminent Professor of Physiology
of the University of Edinburgh.
Stimulants would first be
imperative. It is wise for
the patient to take as much
food as can be assimilated
and will digested. Sometimes
there is a repugnance

for food and being to the mental state and condition of the mouth, the taste and appetite in vomiting. These considerations first should be given thought and desired by the patient the supporting diet should be in the liquid form, and as concentrated as possible. The animal essences with eggs and milk with the addition of some farinaceous food [illegible] as effects it should be given should be from two to four hours and not oftener.

Alcoholic stimulants enter largely into the treatment of typhoid fever. Because of the circulation demanded, if the pulse calls for the use of stimulants. Brandy or some form of spirit or wine; the effect will be known by immediate pulse with increased frequency of the pulse a half ½ of spirit or one ½ of wine. The frequency with which the dose should be repeated depends entirely upon the symptoms. The medicine may about every six hours

sometimes of bowel complaints
not so often. Other stimulants
may be given such as
ammonia in the dose of
from five to ten
grains every hour or two
or it may be combined
with preparations of
Peruvian bark or winebag.
The use of tonics is
highly recommended by
Prof Wood. In my opinion
we must hopefully on
stimulating Nyper growth
whereby the softened and
disorganized matter is
more readily thrown off;

it is generally given
in the close of about
ten days increased
sometimes to fifteen. I
have certainly shown the
efficacy of quit well known
in this house in acute
diseases. But I need not go
far for proof. I have seen
the efficacy of the suffering
from of treatment in my
own neighborhood. An eminent
physician who died but a
few years ago and who
was very successful in
the treatment of this
fever, treated it almost

exclusively with brandy or rum and gave nourishing food. He was called at an time out of his own neighborhood to see a case of typhoid fever which the physicians who had tri in vain had given up all hopes of curing. He immediately put him on good brandy and nourishing food and it was not long until he had the satisfaction of seeing his sick patient, well, about attending to his

usual business. I do not
consider it necessary to
mention his name but
only simply to state
that he was a resident
of Adams County Pennsyl-
vania and a graduate
of the school of
Medicine of Maryland
in the year 1849. The most
was that in difficult
his patients would say
second the other Physi-
cians they had seen
with for the use of some
to cure of different
from whom the pain

that if the tongue be moist, if the pulse be reduced, if the skin becomes moist, if the breathing be slow and regular, and if the patient becomes quiet the use of wine with [illegible] produces most beneficial results; if on the contrary the tongue becomes dry, the pulse quicker, the skin hot, the breathing quicker and attended with restlessness the use of wine is not recommended. The use of blisters in the first

stage of typhoid or enteric
fever I would not think
advisable as they are apt to
increase the fever in the latter
stages they are much better.
As to the use of cathartics in
fever in general they are but
seldom necessary evacuations
may be delayed three or four
days or even longer without
any injurious results provided
there is no symptom of
discomfort arise of the
abdomen &c and the bowels
I might use an enemata
or I might give a saline
laxative as an sulphate

of magnesia. A very particular cause of typhoid fever may bring on insanity. In conclusion I would say that in treating a case of typhoid fever my great object will always be to support the strength of my patient till he had reached the safe shore of health within.

Yours &c &c

Oct 14th 1865

Finis

To the Faculty of
Physic
University of Maryland,
the following report of six cases
of disease occurring in my own
practice in Christian County Ill.
is respectfully submited.

H. C. Thomas

1860.

Condense

1 Amputation of left arm.

2 Uterine Hemorrhage.

3 Diabetes Mellitus.

4 Miliary Tubercle

5 Cerebral Meningitis

6 Rubeola & Capillary Bronchitis

Case No. 1.

Amputation of the left arm in union with Median Nerve was included in the ligature of the Brachial Artery.

August 1st 1867 James W— a young man, aged 23 years, had his left arm drawn into the cylinder of a threshing machine, while in full motion, tearing to shreds, the structures of the hand and arm to the elbow, and lacerating the muscles badly to the middle third of the humerus. The radius and ulna were ground into small fragments and entirely torn loose from the humerus. The brachial artery was not injured above the bifurcation, but protruded from the lacerated muscles, for several inches

from which quite profuse hemorrhage occured, until grasped by a bystander and securely held until the arrival of the Surgeon. Dr N , and myself were sent for, and I having six miles to traverse while he had but two, he arrived somewhat earlier than I was able to do, and not waiting my arrival, proceeded to amputate at once. Chloroform was administered and the arm removed at the junction of the upper and middle thirds, by the circular operation.

The arteries were ligated, three ligatures being necessary, and the wound closed by sutures, before my arrival.

The wound was closed by bringing the lateral sides together, which I think con-

-tributed much towards producing a bad stump, as when it was laid down its weight rested upon the inferior angle which with the retractile action of the deltoid muscle upon the center of the wound, caused prominences or teats at each angle, of considerable size, and, unless removed by an operation, will always interfere with the wearing of an artificial limb. After the operation the patient was under my care.

The patient being in good health, and of robust constitution, did not suffer from shock, or from the loss of blood sustained. I had him removed home, a distance of one mile, immediately, and

employed the cold water dressing, and for the first day or two small doses of Morphia were given every few hours to relieve pain and quiet restlessness. after this only a Dovers Powder at night when necessary; and the bowels regulated by gentle laxatives.

For the first few days he was confined to simple diet consisting of tea, toast broths &c; and after eight or nine days a liberal diet was allowed.

Although in the warmest and most unfavorable season of the year, the patient did well, and complained of nothing save occasional shooting pains commencing near the end of the stump, and extending

upward toward the clavicle.

At the end of the 14th day, the ligatures came away all save the brachial, which remained firm, and tension thereon would produce lancinating pain in the shoulder and neck.

Healing by granulation progressed, and at the end of four weeks the stump was entirely cicatrized, except a small orifice in the center, from which the still adherent ligature protruded, and from which there was a constant discharge of pus.

I now became satisfied that the nerve was included within the ligature of the artery, that bring the only

explanation for its long retention, and the existing neuralgic affection before mentioned, in the upper portion of the nerve. Each day hoping that it would slough off, and not wishing to incise the parts for its removal, an operation was deferred. At the end of six weeks the orifice closed, but soon an abscess formed on the inner side of the arm, in which was opened at the proper time, from which pus was discharged for the ensuing two weeks, at which time it closed, and the orifice at the end again opened and continued to discharge pus, the ligature still remaining firm.

Thus things went on until Oct 20th two months and twenty days after the amputation, when I laid open the stump, and removed the ligature, I then directed the patient to use an injection of Sulp Zinc into the orifice, and very soon had the pleasure of seeing the stump heal up, and become entirely sound, without the recurrence of pain in the shoulder. The stump was imperfect on account of the projections at the anterior and posterior angles as before mentioned.

Case No 2.

Uterine Hemorrhage. premature labor induced.

Mrs R — aged 40 years, at the end of the seventh month of pregnancy with her seventh child, was suddenly attacked at 4 P.M Dec 20th 16, with severe uterine hemorrhage, while attending to her household duties, in the enjoyment of usual health, without the slightest premonition. The gush of blood was so great that the floor was deluged in a moment, she sinking to the floor, with one sharp cry and swooned. The cry attracted the husband, who was near by, He placed her upon

the bed, and restored consciousness by throwing cold water in her face. I was sent for, and arrived at 5 P.M. just one hour after the attack.

I found her very much exhausted, with feeble rapid pulse, severe headache, cold extremities, with occasional bearing down pains; the blood now instead of flowing from the vagina coagulated within the uterus, and was expelled in clots, one or two of which were expelled with each pain.

Upon examination per vagina, the os uteri was found quite hard firm and resisting, the orifice dilated only sufficient to admit the tip of the finger.

The pains observed no regularity but seemed to be induced whenever there was sufficient clot formed to irritate the uterine walls to contraction.
Preceeding each pain there would occur severe nervous convulsions, or twitchings, which came on so suddenly and with such force as to cause her to cry out. These were soon relieved however by teaspoonful doses of Elixir Valerianate of Ammonia.
Upon applying the ear to the abdomen the pulsation of the foetal heart could be distinctly heard, but insted of there being one, there were two.
I then knew that I had a twin

pregnancy to deal with, but could not attribute this accidental flooding to this fact from over distension of the uterus, as the enlargement of the organ was not apparently greater, than in most ladies at the same period in single pregnancy.

I could ascertain no exciting cause to produce the attack, except that she had eaten an unusualy hearty dinner of meat, potatoes, cabbage &c and had experienced a sense of fullness and heaviness in the stomach constantly thereafter, and was now ever and anon suffering with extreme nausea and occasionaly retching to vomit.

I lowered the patient's head and ordered and administered opium and acetate of lead with a view to checking the hemorrhage and arresting the pains. The first dose producing no effect, the dose was repeated in an hour, and was repeated every hour until Midnight, without effect. Clothes wet in cold water and ice applied to the vulva and abdomen.

I then resorted to other astringents Tannic Acid, and Citric. Tannic Acid and substituted hyoscyamus for the Opium but all was of no avail. The flooding still continued, the patient almost exhausted from the excessive loss of blood. The nausea at the stomach still continued

and could not be relieved by any of the various means employed, and for fear of exciting unusual flow of blood and increasing the pains I dare not give an emetic to empty the stomach.

At 3 O.PM. upon putting the ear to the abdomen, no sounds of fœtal life were to be heard. Convinced that the children were now dead, I turned my attention exclusively to the saving of the life of the mother. The flooding and pains still unarrested, the still undilated but was somewhat relaxed.

I resolved to bring on the pains and deliver as soon as possible.

I therefore gave her 20 grains of

Ergot. which dose was repeated every twenty minutes until five doses were taken, without producing any effect whatever. About 8 A.M spontaneous vomiting occured, and at least a quart of solid food was ejected from the stomach, in the same condition as when swallowed at noon the day before. As soon as the stomach became settled, I commenced the administration of a strong infusion of ergot and in half an hour the hemorrhage and pains were both completely arrested. The patient was now in a moribund condition unable to raise her head from the pillow. pulse

barely perceptible at the wrist and very rapid, arms cold to the elbows, feet and limbs cold and numb. I gave her brandy, freely, applied vinegar to the extremities, with friction, then wrapped in flannel, and placed a number of hot bricks around them, got her to drink a cup of warm coffee and by these means, in an hour got the circulation restored, and the patient expressed herself, as feeling quite comfortable.

I now again commenced the administration of infusion of ergot, the second dose, brought on the pains, the uterus began to dilate, and from this time

labor progressed naturally, and at 11 A.M. she was delivered of two still born children, each weighing six pounds. There was not a teaspoonful of blood lost after labor commenced, the uterus contracted firmly, and there was no disposition to a recurrence of hemorrhage after delivery.

She was completely exhausted again after labor was completed, but there was no return of the apoplectic cold extremities. In about fifty hours after delivery, there were strong indications of Puerpal Fever, but yielded to treatment entirely in two or three days. After this the patient continued to

improve steadily, upon a diet and tonic treatment, and in three weeks was able to sit up, and in six weeks was able to resume her household duties.

I am now convinced that had I ruptured the membranes immediately, when I undertook to induce labor, that much time might have been saved, truly.

Case No. 5.

Diabetes Mellitus.

W. W. H —. a gentleman forty five years of age, applied to me in Dec 1866 for relief of what he termed an erption of urine, which he said had troubled him for ten years. He stated that during the day he was obliged to empty the bladder about every hour, and that his sleep was much disturbed at night by frequent desire to Micturate.

The patient was hypochondriacal and dejected, much emaciated and suffered much with indigestion, and a constant sense of weakness and occasional pain in the lumbar region.

Upon testing the urine sugar was found in abundance also slight albumenuria. The quantity of urine passed in twenty four hours, varied from fifteen to twenty pints. the specific gravity of which was 1.033

Whether this saccharine condition of the urine had existed for the few years, or not, I could not learn, for although he had been treated by several physicians, the urine had not been tested before, but think that it could not have existed its present extent, for that space of time without more serious results.

His tongue was dry and red, bowels habitually costive, the appetite was

abnormaly increased, and he was constantly annoyed by an eruption around the genitals and on the perineum, which I deemed to be Lichen.

The pain and weakness in the lumbar region I attributed to a congested condition of the kidneys which was produced by labor, violent exercise, or from exposure to wet and cold.

This I attributed, also as the producing cause of Albumen in the urine.

I commenced the treatment by giving a cathartic, and thoroughly cleansed out the bowels, and then for two days gave him gr XXX Bi Carb Soda, three times per day, and half an ounce of

Cod Liver Oil, half an hour after each meal. After ten days the Soda was suspended, and a pill containing 1/20 of a grain of Sulph Strychnia and 1/4 gr of aloes was given three times a day, with the Oil continued as before. The diet was restricted as much as possible, articles containing sugar and starchy matters, allowed sparingly, potatoes, turnips, beets and beans entirely excluded, and bread allowed sparingly. Under the above treatment the patient soon began to improve, the quantity of urine gradually diminished, as did its specific gravity.

The above treatment was continued

for six months, using the Sodalis Cart ten days each month, and the Strychnia for the remainder of the month, and the Cod liver Oil continued without intermission for the first three month, and then discontinued entirely.

At the end of six month, the quantity of urine was diminished to 2½ pints, in twenty four hours, its specific gravity 1.018, and Trommers test no longer showed any trace of sugar. He had regained his flesh, the dyspepsia relieved, and to all appearances cured. Nitrate of Silver was applied to the surface, over

the kidneys, during the treatment, and entire relief was afforded to the pain experienced then

The patient was under my notice for eighteen month after treatment ceased, up to which time there had no recurrence of the disease.

Case No. 4.

Miliary Tubercle

L. S—. a single lady aged 30 years. I was called to see this lady March 10th 1868. Found her in a very weak and emaciated condition hectic flush on the cheeks, pulse rapid and weak, 120 per minute and an irritating cough without expectoration. The tongue very red and dry, [illegible] the fauces, complaint of pain extending from the clavicle on the left side to the base of the lung. The expectoration was [illegible] before her menses had been suddenly suppressed from getting her feet wet.

[illegible] not recognized, and to this circumstance she attributed all her trouble. as she occasionally experienced pain in the epigastric and lumbar regions.

Upon examining the chest, diminished volume of the left lung was very perceptible, percussion over the upper lobe of the lung, elicited only a slight degree of dullness, while the inferior portion elicited dullness bordering to flatness.

Auscultation of the lower portion revealed the entire absence of the vesicular murmur. The bronchial murmur exagerated, and also abnormal

transmission of the heart sounds. Throughout the upper lobe was the bronchovesicular murmur, and prolonged expiration.

Her appetite was entirely lost, and suffered with profuse colliquative sweats, and occasional chills which could not be attributable to Malaria.

I learned that she had been declining health for some months with increasing anaemia and emaciation, with occasional hacking cough, without expectoration.

The cough seemed to be produced by dryness and irritation in the trachea.

All things considered, I could but pronounce it a very plain case of tubercle, and commenced the treatment accordingly.

Cod Liver Oil and Tonics, Iron, Quinine and the bitter tonics constituting the main treatment.

Various preparations of iron were used, first of the Chloride, Citrate of Iron & Quinine, Sub Carbonate, Iron by Hydrogen and the Citrate of Baryta and the Iodoxide.

Counter irritation on the Chest was kept up with Croton Oil and Tinct Iodine.

Night sweats were finally controlled by the Oxide Zinc, this being the remedy of many kind that could unstrung them at last.

Rest and sleep were secured by [illegible] Powder and Morphia, and nutrition maintained by half a [illegible] bottle [illegible]. Meanwhile the abscess healed, the vital organs to improve, and in a few weeks was able to sit up the greater part of the time. The pain in the chest ceased, the cough disappeared, and by the middle of May had so far recovered as to be able to ride out, which I recommended her to do as much as possible, without fatigue, when the weather was fine. By the first of June she was in better health than she had been for a year. Appetite fully restored, the [illegible] was reduced to [illegible]

cough had entirely disappeared anaemia relieved, the menses restored and regular. I recommended her to continue the use of Cod Liver Oil which I afterwards learned she did not do.

I never nothing more of her now until Sept 1st when I was again called to see her; found her with the same train of general symptoms as when I first visited her in March except the entire absence of cough. The apex of both lungs had undergone solidification in some portions as marked upon percussion and the absence of vesicular murmur. The breathing was

accelerated, anæmia and vomiting were again marked symptoms.

The relapse had occurred about four weeks before, apparently occasioned by excessive fatigue.

She complained of severe pains and cramps in the hypogastric region radiating upward and outward, and outward toward the illium. Constant pain in the lumbar region, painful micturition, and leucorrhœa.

Upon examination per vagina, the uterus was found completely retroverted and lying upon the perineum, being hard, rigid and tender to the touch. The speculum could

great congestion and redness of the organ, and ulceration of the os. I placed her upon the same treatment that had been used before with such good effect, with astringent and soothing vaginal injections and used local application to the ulcerated os, of Argenti Nitras Sol, Vit Bismuth, and directed a hip bath every morning.
Treatment however effected no good, not being able to retain a single injection. The breathing capacity of the lungs gradually diminished, with progressive anæmia and cachexia, and death

occured Nov 14th/68.

During the last few weeks of life persistent diarrhoea occured, which was but little under the control of remedies, constant pain and irritation in the stomach and small intestines. Oedema of the feet and ankles was present in the later stages.

There was no cough whatever after the relapse. Death, in my opinion, occuring from the accumulation of an immense number the Miliary bodies sufficient to compromise to a fatal extent the function of respiration.

Case No. 5.

Acute Cerebral Meningitis.

[illegible] 5[illegible], aged [illegible] years, was attacked March 18th, with severe pain in the head, more severe in the anterior portion, high fever, with occasional and increasing delirium, morbid acuteness of the special senses of sight and hearing. This condition had existed for two days before medical aid was sought.

I visited him in the evening of the second day, but he was now in a comatose condition, pulse 140 per minute, hard and strong

great heat of the head, pupils contracted to the size of a fair head and would not respond to the action of light. Eyes suffused and glassy face flushed and red, respiration disordered, walls of the abdomen depressed, and great heat of skin.

There was a strong disposition to Opisthotonus, the patient often resting on the back of his head and his heels. Disordered stomach was not present, as there was no nausea or vomiting.

I commenced treatment by giving a cathartic of Calomel

Rhubarb and aloes. which operated copiously in four hours. I applied the ice bag to the head, and a large blister to the sacrum and mustard plasters to the extremities. Veratrum Viride and Spts of Nitre given to bring down the pulse, and promote action on the skin and kidneys.

Small doses of Calomel, combined with Opium enough to prevent its action on the bowels, were given every two hours, and continued for three days, and afterward every four hours for three days longer.

Iodide Potassium was given in 1gr doses every 6 hours, and gradualy increased to two grains, and in the latter dose continued until convalescence was fully established.

Under the above treatment the patient soon began to improve, consciousness was fully restored on the second day, the sight was restored on the third day, heathy, tranquilized, heat of head and skin measurably diminished

The above course was continued for one week, when the acute symptoms gave way to those of

an asthenic type, and the treatment accordingly changed to a supporting nature. Iron and Quinia constituting the principal, with nourishing diet, beef tea, milk &c. He convalesced rapidly, and at the end of fifteen days, was quite well.

For some months however he occasionaly complained of pain and swimming in the head, and in fifteen months had a recurrence of the disease, but not so severe as the first attack. I seen him in a few hours after the attack, and treated him the same as before only that the Iodide of Potassium was discontinued

for several weeks, after which he ceased to complain of the swimming and pain in the head.

Case No. 6.

Rubeola Complicated with Capillary Bronchitis.

The following is one of many cases which it was my lot to attend during an epidemic which occured during April May and June 1868, which was marked by an unusual number of complications, owing to wet weather and consequent dampness in a low prairie country, and my inability to enforce proper hygiene.

Martin K—— a young man aged 21 years, had been indisposed for ten days, when I was first called to see him.

I found him with fever, headache, quite a severe cough, expectorating white mucous, tongue with heavy white fur, suffusion of the eyes, on the conjunctiva of which the eruption was plainly visible. With the above symptoms and also learning that he had been exposed to the contagion I unhesitatingly pronounced a diagnosis. The bowels being costive a gave a laxative, and then diaphoretics, and directed him to keep covered up warm in bed, and drink copiously of cold water until the eruption appeared.

(I used cold water a great deal throughout this epidemic to assist in bringing out the eruption and found it much more serviceable than the hot teas, so frequently used for this purpose.)

By the use of these means, in two days the eruption was fully brought out, and then bring no unfavorable symptoms, I left him in the care of his nurse, directing that he should remain in bed until desquamation had taken place, then remain about the house a few days, taking care not to contract cold. Three days thereafter I.

was again summoned to see him, and learned that the morning before he had got up, went down stairs without putting on a coat, sat for an hour in a cold room, and finally took a stroll out of doors, the result of which, was a sudden chill, followed by Acute Capillary Bronchitis.

The pulse was 125 per minute full and strong, tongue brown and dry, skin dry and hot, severe cough, expectoration of a mucco purulent nature and frequently streaked with blood.

The respiration was forty five per minute, laborious, with great heaving of the chest, which was distressing to behold.
Auscultation revealed subcrepitant rales, commingled with coarse and fine mucous or bubbling sounds.
There was no dullness on percussion.
A saline cathartic was given and I then placed him upon a combination of Opium, Calomel Tartar Emetic, Ipecac and Sanguinaria, which was continued for three days. Counter irritation with Croton Oil, Tinct Iodine and finally a fly blister was made on the chest.

After three days the acute symptoms gave way to those of great prostration. The treatment was now changed to that of a stimulant and supporting nature, Iron & Quinine & Carb Ammonia, and Brandy.
As an expectorant I gave a combination of Syr Squills, Vinc Ipicac and Tinct Belladonnae.
He convalesced slowly under this treatment, and in three weeks had fully recovered.

H. C. Moon M.D.

Baltimore Md
Feb 13th 1869.

Thesis on

Gun shot wounds.

Howard H. Hopkins.

January 15th 1869.

Gun-shot Wounds

Gun-shot wounds receive their name from the manner in which they are produced, and are caused, most generally, by hard bodies, propelled from some species of firearms.

As a general thing, gun-shot wounds do not bleed to any great extent; excepting when a large bloodvessel is injured. The reason of this is, because the heat of the moving bodies cauterizes the part, and because the parts are more or less lacerated, offering ragged edges, which assist in the coagulation of the blood.

Gun-shot wounds may occur in any part of the body - and generally are easily recognized. They have one point of entrance, which is generally inverted, and they may have several points of exit, or none at all.
The point of entrance is generally recognized by having inverted edges; it is sometimes larger than the point of exit, for the ball in entering, may carry in with it some portion of the man's dress, which it may pass by, in the wound

leaving it, and then passing out.

The entrance may also be marked by the burnt-powder of the ball being wiped off as it enters.

The point of exit is almost always more lacerated, and, generally larger than that of entrance, and the edges are turned outward.

The point or points of exit are the first to heal, and less sloughing is apt to occur, as the ball by the time it traverses the body, has lost a great part of

its velocity.
The wound may be very slight, or may produce death at once, thus it may pass through the soft parts without doing any great damage, or, it may meet with blood vessels and bones in its course, which will be torn across or fractured, making a very ugly and dangerous wound.
There is always shock attending gun-shot wounds, this may be slight or very severe, causing

sometimes death.

Gun-shot wounds, from whatever cause, whether from a musket-ball, cannon-ball, or shell &c, are in general, contused wounds, usually attended with a deadening of a part of the solids, which ultimately sloughs, and thereby prevents union by adhesion.

It is of great importance to ascertain if the ball has passed out of the body or not, and two openings do not, by any means, prove this, for

the man may have been wounded twice, and both balls may be lodged. — Again, the appearance of two holes does not prove that the man has been wounded twice, even if they are remote from each other, for there are cases on record, where the ball strikes the head, chest, or abdomen, and passes out out at a point exactly opposite, just as if the ball had gone entirely through the cavity, in such instances

the balls are generally guided by a ridge of bone, thus in the chest, it travels round the ribs, or in the abdomen, around the crest of the Ilium.
The passage of a ball is often indicated by a bluish or dusky red line on the skin, along this track, the tissues are bruised and broken down, and their vitality greatly destroyed.
Collapse or shock is the first attendant upon

gun-shot wounds, this as I have before stated - may be slight or severe, It depends not altogether upon the size or extent - of the wound, but - upon the portion of the body where the - injury is inflicted. The depression may - come on immediately after the injury, or as - frequently occurs, not for some hours afterward. but this depends upon the peculiar mental - Constitution and nervous -

developement of the patient.

When the shock is severe, the patient may die from it alone, even when no large amount of blood has been lost, or no great destruction of parts, which could have caused rapid death, and yet I say, even in such cases, the patient may never rally from the shock, but steadily sink. During the shock, the face is pale, anxious, and pinched, the Extremities

are cold, the pulse small, weak, and often irregular, and the voice is feeble.

In this state, it is of great importance, to know whether to rouse the patient or not, thus if any of the large blood vessels are ruptured and cannot be conveniently ligated, the depressed stage assists in the coagulation of the blood, and thereby prevents hemorrhage.

The patient should be placed in bed, with

his head low, and be-
carefully watched, in-
order, by the judicious-
application of Stimulants,
warmth to the feet, &c. to-
prevent the collapse-
proceeding to too great-
an extent, in fact, to-
save him from sinking
from the effects of that,-
which, if not carried-
too far, is most favor-
able to his ultimate-
recovery.
If, on the other hand,
the injury is slight,-
even if it be deep, with-

-out affecting any important blood-vessels, he should be rallied as soon as possible, as the reaction is generally in proportion to the amount of depression.

Primary Hemorrhage is if severe, of comparatively rare occurrence, some bleeding may occur, but none of any great importance, except if the ball happens to carry away a part of a large artery, and not completely cut it across.

Intermediate Hemorrhage, may occur some hours, after the infliction of the injury, about the time reaction begins, or after it is thoroughly established, in such cases, if pressure fails, the best way is to cut down upon and secure the bleeding-vessels.

Secondary Hemorrhage, or that which takes place some days after the infliction of the injury, may be produced by an increased circu-

lation, it may happen from sloughing or ulceration, or by a sharp fragment of bone, it may be caused also by a peculiar Hemorrhagic diathesis of the patient, which is not unfrequently produced by bad diet, such as a deficient supply of vegetable food, causing Scurvy &c.

I shall now name the different kinds of gunshot wounds, in order, naming the worst and most fatal thus, —

Gun-shot injuries of the head and face are the most unsatisfactory and fatal, as a correct diagnosis is frequently hard to obtain, and yet is of the greatest importance.

Gun-shot wounds of the chest are the next to be feared, and may be divided into, 1st. those in which the cavity of the Thorax has not been opened.

2nd. Those in which the cavity has been opened.

with or without injury to its contents.
In the first class, the danger is of course much less than the latter, although sometimes there is great trouble.
Among wounds of the second class, the ball commonly passes through the lung and hemorrhage may occur either externally, through the wound, or internally into the cavity of the chest.
The next that shall oc-

-cupy our attention, are-
those of the Abdomen,-
which are but too often
fatal.
These may be only flesh-
wounds, caused by-
fragments of shell-
which carry away-
large portions of the-
integuments, leaving some-
times portions of the-
intestines exposed, or-
they may penetrate the-
Abdomen, with or without-
injury to the viscera, or-
large vessels, and these-
wounds are most commonly

fatal.
The next are gun-shot-wounds of the arms or limbs, which are most frequent, especially those of the lower extremities.
This variety or class may be divided as follows —
1st Flesh wounds caused by lodgement, or passing through of balls without any fracture or injury to large blood-vessels, —
2nd Simple fractures are generally caused by a spent ball.

3rd Fractures, with destruction of a portion of integument, caused by ball penetrating the limb, and striking the bone, or by fragments of shell, which may fracture the bone, and cut across important blood-vessels.

4th The whole limb may be torn away by a round-shot or shell, and be left hanging by mere integuments. Such cases are very fatal. The last class which will occupy our attention, are

those of the joints, are are
of peculiar interest, and
are generally much
to be feared.
We will now consider
the treatment; I have
before stated that all
foreign bodies, must if
possible be removed, if
the opening is too small
to admit of the free
passage of the finger,
it should be dilated, and
the finger should al-
ways be preferred to
any other kind of probe,
as (to use the the language

of our distinguished Prof. Chisolm "It has an Eye at the end of it" and is much better adapted to the discovery of any foreign body, the passage of the ball, and the amount of injury done, than any thing else we could use. When the foreign body is extracted, if there be any, the wound should then be cleaned, and as inflammation is almost certain to set up within 48 hours, it

should be kept covered with a single peice of wet cloth, if possible, the cloth should be wet frequently with cool water so to be absorbing the heat of the wound continually.

When a large blood-vessel is ruptured, it should be ligated at both ends, for if either end be left open, circulation may be carried on through the collateral channels and hemmorhage may return.

The patient if required, — should have his bowels — opened with some mild — purgative*, and perfect — rest should be enforced — if the injury be at all — dangerous.

AN

Inaugural Dissertation

ON

Pleurisy or Pleurisy.

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

George L. Frew M.D.

of

Maryland.

Session of 1868-9

Pleuritis or Pleurisy.

This is one of the most frequent of the inflammatory diseases; There is no disease that claims a more careful consideration of the practitioner of Medicine than Pleurisy; for two reasons, first; it may, by not being properly treated, entail upon the unfortunate sufferer, pain, and trouble to the end of his life: In the second place, in my opinion it has been the source of most of the numerous Pulmonic diseases which at present prevail in our country.

By an attack of this disease, contracted by many of our Soldiers, whilst fighting for their beloved and desolated lands, it became their sad lot returning to their devastated homes to suffer and linger from that dreaded of all diseases Con-

sumption, superinduced by an attack of Pleurisy; causing adhesion of the Pleurae, and by this means interfering with the regular laws of Respiration.

But I will in as few words possible express my views of the Causes, Anatomical structure, Diagnosis, Prognosis, Treatment, and Morbid Anatomy of this disease.

Hoping this may meet the views of my very proficient and justly distinguished teachers, I submit this imperfect essay to their kindest and most favorable attention.

Anatomical Structure of the Pleurae.

These are a very delicate serous membranes, investing the lungs, and the walls of the Thoracic Cavity: it is a shut sack, the external portion of which is closely adhered to the walls of the chest, covering in the ribs and Intercostal muscles: This has received the name of Pleura Costalis, which is reflected downwards on the Diaphragm, and upwards as far as the roots of the lungs, from the Sternum, it is then reflected on the Pericardium, thus forming the boundary of the Middle Mediastinum. from the Pericardium it is seen to be reflected to the lung proper, and it envelopes the whole of these organs. That which dips down between the lobes, has been called the Pleura Pulmonalis. (O.S.) Between these two serous

membranes, nature has provided a fluid, the amount of which is stated to be about two or three drachms, whose purpose is to lubricate and cause the smooth surfaces of these membranes to glide noiselessly over each other.

Pathology.

From what I have read in Medical Works on this subject I believe it to be nothing more than an acute inflammation of the Pleurae, though we may and do have numerous stages of acute inflammation. It may be Traumatic (as in cases where we have punctured wounds in the chest) It may occur in an Idiopathic form (from exposure to cold and wet weather) It is seen also involving one or both of the Pleurae in the Idiopathic form.

Symptoms.

As far as I can learn from eminent authors, and some few cases that I have seen attacked with this disease are these. The patient will tell you he was taken with a slight or he may not recollect having had a chill, but simply complains of being unpleasantly cold, especially his hands and feet; after which he was taken with a sharp acute pain in the side, (stitch) he may locate it from the axillary pit down to the last rib on either side, but most generally affecting the left side. I have seen two cases of Pleurisy both of which located the pain on the right side. There will be also as a general thing accompany this lacerating pain, a cough, which will be short and sharp, he will tell you that it gives him

serious consequences ensue, as when the effusion is so great that it floats or presses the lung upwards, thus it acts mechanically in obstructing the full inflation of that organ, or it may displace or encroach upon the heart, and by this means interfere with its proper function.

Diagnosis.

We are enabled by the means of Percussion and Auscultation, to arrive at a definite conclusion of the lesion: From Pneumonia, Pleurisy is known by the sharpness of the pain in the latter and dullness of the pain in the former, You have the friction sound in Pleurisy, which is absent in Pneumonia. There is a sound termed of the crepitant rale in Pneumonia; which is always absent in the

height of the acute attack of Pleurisy.

By percussion when the effusion has taken place, we have one of the most decided marks that of change in the line of dullness with the different positions you place your patient. Whilst in Pneumonia the dullness is stationary. The Voice furnishes another valuable diagnostic point: in this we have that modification called Egophony, resembling the bleating of the Goat. This is looked upon as one of the Pathognomonic signs of effusion in the Pleura's, another sign is the expansion or widening of the intercostal spaces. The diagnostic difference from Intercostal Neuralgia or Pleurodynia. Pleurisy is distinguished by the presence of fever and friction sound, also increase of pain by in-

spiration, which is not the case in this disease.

Prognosis.

This disease is rarely fatal: An attack of Pleurisy may sometimes be cut short by prompt and energetic antiphlogistic treatment: by this means keeping down inflammation, but when effusion has taken place it must be absorbed, or the Prognosis will not be so favorable, as the fluid interferes with respiration, and in this way endangering the life of the patient: by Asphyxia. We may have Empyema, or ulceration of the Diaphragm, emptying the effused serum into the abdominal cavity, producing fatal Peritonitis. but as a general thing it terminates more favorably. For by prompt and judicious treatment we are almost always able to produce absorption of the effused serum, and thus cut short the disease in its incip

cent stage. The most serious complications with which we have to deal, are those who are suffering from Phthisis Pulmonalis, or any co-existing disease of the heart, liver, or kidneys. It is also more fatal with the old than the young. The most unfavorable symptoms are purulent expectoration, hectic fever or general emaciation.

Treatment:

Many years since, in the days of Rush, the popular method of treating Pleurisy was blood-letting in all cases, but the received opinion now is that in most cases it can be abandoned, for in many of blood-letting, you are drawing from your patient the vital stream of life and rendering his recovery, if at all, tedious, and his convalescence protracted.

Should I have a case to treat, I do not think I would resort to blood-letting, unless my patient was healthy, robust, and young; and was suffering with extreme pain, the fever running high, with a full bounding pulse, I should then resort to local blood-letting. Yet; I am satisfied that there are cases on record where if blood-letting had not been practiced, the patient would have died. If bleeding is performed, blood should be drawn from the immediate locality of the pain. It is not advisable to bleed in these cases after 24 or 48 hours have elapsed, though it has been done as late as the third day in some mild cases. Mustard to the seat of pain, and free purgation gives relief, in some cases. But the heroic remedies are those most valuable of all medicines Opium, and

Mercury, being careful not to carry the opium as far as Narcotism, or the mercury this far as to produce Ptyalism. I have seen fine results from the administration of Morphine, Hypodermically in conjunction with Digitalis, and Bi Tartrate of Potassa, for in this way I lessen the pain with the Morphine, the digitalis lessening the amount of blood sent to the affected parts. While the Bi tartrate of Potassa acting as a cathartic, taking from the blood its watery particles; and causing nature to take away the effused serum. In the lower stages of the disease I should endeavor to support my patient with nutritious diet and tonics, to compensate for the amount of waste by the rapid metamorphosis of the tissues gain

on. It has been recommended by high authority that a formula such as follows

℞—

Hydrarg Chlo. Mitis — grs vj
Pulv. Opii — — grs vj
Antimoni et Potassæ Tartras — gr fs. M.
Ft. Chs. xij

S — One every 3 hours.

But I should regulate my treatment as the symptoms of the case presented themselves, and should the disease progress so far as to threaten the life of my patient with Dyspnœa, owing to the large amount of effusion in the cavity, and not being able to cause the absorption of the same, I should resort as the last hope, to the

of performing the operation of Paracentesis Thoracis, or puncture of the chest, selecting a position between the seventh and tenth ribs on the left side, and the sixth and eighth on the right side, and just behind or near the angle of the rib, taking great care not to wound the Spleen on one side; or the Liver on the other: I should use the Trocar and insert it near the upper edge of the lower rib, so as not to wound the Intercostal Artery, and Nerve, also raising its point upwards, so as to prevent puncturing the lung as it enters, after which, I would with-draw all the fluid, gradually a small portion at a time, so as to permit the expansion of the lung slowly. To perform this operation I should place my patient in an

erect posture, but if he were not able to sit up, I should then place him on the edge of the bed, so as to allow the fluid to make its exit by way of the opening. Sometimes it becomes necessary to wash out the cavity, with warm water and astringents, or antiseptic solutions, to accomplish this. I would take a Trocar and attach to the end of it an elastic tube and with the aid of a syringe throwing the medicated solution into the cavity.

In recommending diuretics in the beginning of my treatment I neglected to speak of other valuable ones besides. The Infusion of Pollasson, the infusion of Juniper berry, Colchicum also is used. Scillia is an excellent diuretic. The Tincture of Pollas

is found to be very beneficial in the treatment of this disease, with others of the same class.

Morbid Anatomy.

When death has occurred, in the early period, the parts have a red appearance, showing the highly congested state of the tissues and the blood-vessels look much larger than in health. The Pleurae, you will find, have become adhered to each other by bands or straps from organized lymph, which was formed by the effusion, or it will sometimes be found an impossibility to separate the Pleura Costalis from the Pleura Pulmonalis. There is sometimes found a displacement

of the heart, lung, liver; by a variable amount of serum pressing against these organs, and forcing them from their normal position. You have a bulging of the ribs; and a widening of the Intercostal space doubtless occurring from the same cause.

George T. Truitt.
Maryland.

Feb 15th 1869

AN

Inaugural Dissertation

ON

Typhoid Fever

Submitted to the Examination

OF THE

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OF THE

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By

J. Clayton Harrington

of

Maryland

Session of 1869

Typhoid; Enteric, or Pythogenic Fever.
Each of these names, has had its advocates and nearly all in turn have been objected to by others. Typhoid no doubt by some was thought to be expressive of the low form of the disease, but has been opposed because, it literally means "like Typhus."
Enteric is a term considered most appropriate by another author, since it refers to the seat of the lesions, namely in the intestines; but this ground has been brought up as a sufficiently strong argument against its adoption as it tends to revive the idea that these lesions were the cause instead of the result of the disease.
Pythogenic fever has been proposed, as it was believed the disease originated from a putres

cent matter – but as this matter is not clearly understood, this name was not adopted.
Typhoid fever is of the continued form, endemic and prevails mostly in Autumn. Is not confined to any class of society but attacks alike the rich and the poor. And seems to mark by preference the youth and those just blooming into manhood for its prey.
All ages and sex from infancy to middle life are liable to this dread maladay. Unlike Typhus it is not common in person over fifty years of age.
Pathology – Typhoid fever is thought to be a disorder, general or systemic with a characteristic secondary local lesion of the intestines. Dr. Wood thinks there is an inherent predisposition in many persons similar to tubercu

losis. It sometimes though not always affects the brain, and the stomach ulcerates, the spleen is softened frequently; the liver, heart and kidneys are altered. In many cases also the parenchyma of the lungs is congested. But the chief seat of the affection is in the patches of Peyer and solitary glands of the small intestines. Those nearest the ileo-caecal valve being the most altered. This altered state is owing to the deposit of a morbid material, known as typhoid deposit in these glands. They are first enlarged; sloughing is the next step, which takes place about the second week. Ulceration follows sloughing, occurring at the end of the second week generally, beginning with the patches nearest the caecum. Cicatrization is the

result of ulceration and never produces stricture. Perforation as the consequence of ulceration or sloughing may supervene; when from the former the opening is small; from sloughing generally large. Perforation lights up an inflammation of the peritoneum which is fatal in most cases. The Mesenteric glands are often diseased. Some of the mesenteric arteries as the result may be ulcerated giving rise to hemorrhage from the bowels. These lesions are peculiar to typhoid fever and are said to be as characteristic of the disease, as the eruptions of small pox are characteristic of that malady.

Cause — Decaying animal matter and all forms of filth together with the leakage of water from drains and sewers into wells; foul

air, deficient food, violation of hygienic laws &c.
Contagion cannot be said to be a cause; it is not generally contracted by those who come in contact with a private patient suffering with it. Although it is undoubtedly spread under certain circumstances, as is seen when a person afflicted with Typhoid fever moves into a portion of country where the disease had not previously existed; a great number of those in the neighborhood will be attacked. It is not confined to any particular part of the country it is endemic in every region. The patches of Peyer disappear after forty five hence the characteristic lesions are uncommon after that period. It does not generally attack the same person a second time.
Symptoms — This dread malady begins

with a chill, general malaise, the sufferer's mind wanders he is unable to concentrate his thoughts. The skin is not much changed at first, but soon assumes a congested appearance not so marked as in Typhus, but as it is more or less constant in this disease it must be considered as significant. Sometimes too it changes to a dusky hue, owing as some suppose to a "changed condition of the blood." As the disease assumes a graver form headache is complained of — Sometimes the patient talks incoherently, is unable to tell where he is, makes frequent attempts to get out of bed. Often he becomes indifferent as to his condition, the urine and feces are passed involuntarily in bed; he catches at imaginary objects in the air picks at the bed clothes

and body linen; or he lies half dozing but gets no refreshing sleep — a state called coma-vigil. At other times he mutters and becomes delirious a condition termed typho-mania. Subsultus tendinum and convulsions accompany the latter denoting uraemia often. There is thirst until the sensabilities become blunted. The tongue is covered with a yellowish or brownish fur, which comes away leaving the surface smooth. Sordes appear on the gums. There is diarrhoea according to Louis in fifty per cent. of the cases, the evacuation being of a yellowish or ochre appearance. Hemorrhage from the bowels in twenty five per cent. of the cases, but it is not so fatal as was once supposed. Meteorism, tympanites, gurgling in the right illiac

fossa, tenderness on pressure, are prominent symptoms. An eruption called lenticular rose-colored spots, appears in an indefinite proportion of the cases; the papulae can be felt by passing the finger over them. Sudamina are seen towards the close of the disease. Bed sores are apt to occur on the most prominent parts. Epistaxis is another of the diagnostic symptoms. The pulse is much accelerated; it is considered a bad omen if the pulse rise above 120. The temperature is elevated. The urine scanty and high colored, but becomes more abundant and more natural as the severity of the disease declines. The pulse fluctuates one day it is 120 and the next down to 90.

Diagnosis — Typhoid and Typhus were former-

ly consid.ed as only different stages of the same disease, but they are essentially distinct, originating from different causes. They differ also from other fevers in not terminating in the crisis of sweating. In Typhus there appears a mulberry rash from the fifth to the eighth day, while in Typhoid it consists of rose-colored eruptions; on the neck, thorax back and abdomen between the seventh and fourteenth days; fading away in a short time to be succeeded by other crops as long as the fever continues. The spots peculiar to typhoid fever are not to be seen on the dead body. They are slightly elevated with round heads, disappear on pressure, but appear again when it is removed. They are to be

distinguished from flea bites, by not having a dark point in the centre. In typhoid Peyer's patches ulcerate, in typhus they never do. The occurrence of one disease will not prevent the other. Diarrhoea is rarely ever present in Typhus and hemorrhage never. Sordes appear on the gums and a dirty brown coat on the tongue in typhoid not so in typhus. Typhoid is a disease of youth rarely occurring after middle life, typhus may attack at any age. The patient in typhoid is subject to relapse not generally in typhus. The crisis takes place in typhus from fourteen to twenty one days in typhoid not until the thirtieth. Jenner says "the small dry tongue, with red tip and edges smooth and furred, of a pale brownish yellow and

fissured, the surface seen between the fissures being of a deep red - may be considered differentially as a diagnostic sign of Typhoid fever. It is often difficult to distinguish it in children from remittent fever; also from enteritis, pneumonia, and bronchitis - but the slow advancement of the attack without any remission; the continued rise of the thermometer the absence of the morbid signs of auscultation and percussion as a rule, are sufficient to guide the diagnostician. To sum up, the epistaxis in the early part of the disease, the yellow discharges, the abdominal symptoms namely tympanites tenderness on pressure, gurgling in right iliac fossa will at once make us sure in pronouncing the disease typhoid.

Prognosis — Death is apt to take place in a few days from the onset. The general restlessness of the patient, a tendency to slip down in the bed; the tongue, becoming crusted after it has once cleaned off with marked aggravation of the abdominal symptoms argue unfavorably for the patient. Death occurs in about one in five or six; it takes place often at a later period of the disease, A close observer says half the fatal cases survive the twentieth day of the disease. In the more protracted forms death is chiefly from asthenia occasionally from debility of the heart. Death from coma and apnoea is associated with a disordered state of the head, from asthenia with disturbed condition of the abdomen. Perforation is apt to occur when

the symptoms are the mildest. Peritonitis is most commonly the result of perforation and from this cause it is almost always fatal; the only case of recovery on record is one reported by Dr. Wood. On the other hand recovery may take place when the symptoms are the gravest; the practitioner should never be discouraged but continue with unremitting efforts till death closes the scene; if it is not in his power to save he may at least smooth the rugged path to the grave. When there is a general abatement of the symptoms the pulse becoming fuller and less frequent the general sensability and desire for food returning the tongue becoming clean and assuming a moist and healthy look, promise well.

Finally keeping in view the rule that the mildest cases are those in which perforation is most liable to supervene our prognosis must at all times be guarded. Perforation from ulceration is not attended with so much danger often producing nothing more than hemorrhage from rupture of the mesenteric arteries.

Treatment— As we cannot cut this disease short, our only hope is in supporting the patient and meeting the indications as they arise. In other words to use palliatives and aid nature all we can. Many cases have been conducted safely through by the use of food and good nursing alone— indeed the percentage of deaths has been a great deal less when this plan was adopted than

when they were fed on calomel and bled, the whole system blocked also by the too frequent use of tartar emetic. We must treat this as all other diseases, not from its name but the symptoms. The mineral acids seem to be the most efficacious, the dilute phosphoric acid may be given every hour or two. Or the nitromuriatic, five to ten drops in sweetened water three or four times a day. The dilute hydrochloric to the amount of a fluidounce daily is said to produce the happiest effects. The modus operandi of the mineral acids is that they correct the super alkalinity of the blood. In cases where it is difficult to distinguish infantile remittent from typhoid, the prompt action of quinine in the relief of the fe-

nor will soon dispel all doubt. Food should be given from the beginning, commencing with toast water then milk; beef tea and other broths when the patient is able to take them. Alcoholic Stimulants, milk punch wine whey, half a wineglassful every three or four hours. Quinia does little good except as a tonic. Wrapping the patient in wet sheets or sponging when there is much heat of surface, has been tried with good effect. Cathartics should not be used unless there is constipation and then only the mildest such as castor oil. When there is much abdominal tenderness warm fomentations, turpentine stupes, or poultices. Diarrhoea if it become excessive, amounting to three or four discharges a day should be checked.

For this purpose Tannic Acid grij and Opium gr ¼, or the Chalk mixture and laudanum; Sub-Nitrate Bismuth and astringents. If on the contrary there is constipation enemata or saline laxatives. Turpentine has by Dr. Wood been found highly useful. When the disturbance of the brain forbids the use of stimulants when the abdomen is tympanitic, when the tongue is shedding its fur and becoming clean, it should be given. It is thought to stimulate the diseased patches and cause them to heal after the sloughs have been thrown off. And about the close of the second week it is best to administer it, before that time it will do no good. In doses of ten drops every two hours and it may be increased to to twenty. Its good effects are shown by a return

of moisture to the surface of the tongue, it becomes coated with a white fur which gradually disappears. The sulphites have lately come into use, but how they exert their control is not known. The sulphite soda ʒi may be given during the day in divided doses. The liquor Ammoniae acetatis for gastric irritability; or the effervescing soda powder, or the citrate of Ammonia and Potassa, a drachm each. The complications must be treated as they arise. If there is severe headache the hair should be shaved off and cold applied - ice water, ice in bladders. If peritonitis occur keep the patient perfectly quiet, and give large dose of opium to still the bowels. For hemorrhages the various astringents, as the per sulphate of iron, the acetate of lead or tannic acid. The bladder should be exam

ined daily. Should coma threaten as the result of uraemia, counterirritation to the nape of the nape of the neck by means of blister, and stimulants. The occurrence of bed sores should be prevented if possible, the position changed in bed often, the parts most subject to pressure, bathed in whiskey and water, spirits of Camphor, olive oil or soap liniment. After they make their appearance, they should be treated as ulcers, with simple cerate or some bland application. Fresh air is indispensible. Tonics, and stimulants, when the powers of life are failing - indeed more dependence is to be placed in them for conducting the patient safely through the attack than in drugs. But by a judicious use of them together we may better attain our object. Animal broths eggs farinaceous sub-

stances every two or three hours. Quinine in two grain doses so that eight or ten grain doses may be given during the day, or Huxam's tincture of bark. When the pulse is frequent and feeble 120 to 130 per minute and the heart's sounds almost inaudible, wine whey, milk punch, brandy ℥ss or wine ℥i. Alcoholic stimulants should not be used too freely during the first stage; it is in the latter part of the disease, when the enfeebled frame is no longer able to resist the ravages of the disease that they are loudly called for. When the patient has recovered, he should return to solid food very carefully. The appetite is generally voracious at first, but only the most easily digested substances should be allowed, as the intestinal lesions are often slow in healing. Gentle exercise in the open air, daily walks, will will do much to rebuild the shattered constitution.

AN

Inaugural Dissertation

ON

Rheumatism.

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

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OF THE

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FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

William Augustus Hamilton

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Baltimore, Md.

Session of 1868 to 1869

Rheumatism.

Rheumatism, one of the most painful diseases that "flesh is heir to", is an affection that is characterized by acute inflammation of the fibrous tissue, and may consequently occur in any portion of the body where such tissue is found. It most frequently presents itself in the articulations, and, as has been found, the wrist seems to be its favourite stronghold and "point d'attaque". Rheumatism has been divided in a number of different ways, the most generic of which is simply into Acute and Chronic Rheumatism. There is also a disease in which the symptoms of Gout and Rheumatism seem to be

blended or combined which is known by some authors under the name of Rheumatic Gout, but as it generally treated under the head of Gout, I shall not consider it as belonging to my subject.

I, Acute Rheumatism

Acute Rheumatism is an inflammation of one or more of the joints, displaying all the symptoms of ordinary inflammation such as redness, swelling, heat and pain, with the exception that it does not possess the tendency to terminate in exudation or suppuration; although, if unfortunately, the disease attack the internal organs, as the pericardium or endocardium there is a probability that there will be exudation of lymph or it may even end

in suppuration. Unaccompanied by complications, Rheumatism, though very distressing cannot be termed a dangerous disease as it scarcely ever proves fatal. It rarely occurs under the fifteenth year, although Dr Watson states that he has met with it as early as the third and fourth. The inflammation shifting, as it does, from joint to joint, — or metastasis as it is technically called, has been considered by some to travel with little or no regularity; but Professor Hirtdwells strongly upon what he terms "the law of parallelism"; — concerning this, he states the following: "Corresponding joints are often affected together, and when this is not the case, the different affected joints

are either on one side of the body, or joints on the two sides which are analogous, viz., the knee and elbow, wrist and ankle, hip and shoulder are affected in combination. In an analysis of twenty-one cases with reference to this point, out of eighty eight instances in which either a joint was affected singly, or more or less joints affected in combination, there was but a single violation of the law of parallelism."

Acute Rheumatism generally makes its onset with but little warning, thus out of sixteen cases recorded, nine were very sudden, and were not ushered in by any premonitory symptoms. It is somewhat difficult to state the time that it takes this disease to run its course; from seventeen

to twenty-five days has been given as an average though it may last much longer when accompanied by endocarditis or pericarditis. The joints affected, in this disease, are exceedingly tender, and are so painful that the patient dare not move them, and thus is rendered perfectly helpless simply by pain; - even rest, yes, even "tired Nature's sweet restorer balmy sleep" is denied to him by those hardest task-masters and veriest of demons agony and pain. Indeed so exquisite is the pain, that the mere jarring of the room by the heavy footstep of a thoughtless or forgetful visiter or attendant may produce such torture as to elicit cries of anguish from the patient who possibly is slightly feverish in addition to his actual

sufferings;- thus day in day out the patient lies moaning with pain until Nature (aided by the physician) "soothes the racking limbs and calms the burning brow." The chief danger in this disease is that it frequently (though not to the extent formerly supposed) involves some complication of the membranes of the heart, of which endocarditis is by far the most frequent; delirium of an active character is a very sure symptom of this complication, and it must be remembered by the young practitioner that this delirium does not show any inflammation about the brain, but that it is simply and purely sympathetic with the disorder of the endocardium; another thing, in regard to this delirium must be borne in

mind, that although there is always a certain degree of fever in acute rheumatism, delirium is very rarely if ever present; although all other signs and symptoms of fever of a sthenic type are found; that is, the tongue is coated, there is more or less thirst, the pulse is seldom however above ninety. The opinion now that is generally entertained is that there is existing in the blood a "materies morbi" supposed to be lactic acid, in the same manner that lithic or uric acid exists in gout; it, however, is certain that the perspiration and urine are of an acid character. Acute Rheumatism was formerly believed to have invariably proceeded from what is generally known as exposure to wet and cold; nor

has this idea yet died out in our community, not that I would deny that prolonged exposure might not act as an excitant or even a cause, but generally speaking there seems to be a true diathesis of rheumatism;- it is undoubtedly hereditary, and in two-hundred and forty-six cases of distinct acute rheumatism, almost twenty-nine percent were found to have been hereditary; these cases were admitted into St. George's Hospital and were recorded by Dr. Henry W. Fuller, who also, in regard to those persons most likely to suffer from the disease, makes the following remarks: "Those persons are naturally the chief sufferers who through want and privations, irregularity of life, and neglect of their

general health, are rendered most liable to that state of mal-assimilation whereby the materies morbi is produced; and who, again, from the nature of their occupations, are most exposed to atmospheric vicissitudes, and to other exciting causes of the disease." In regard to the diagnosis of Rheumatism, it is exceedingly, or rather comparatively simple, the only disease with which it may be confounded being Gout; of which two affections the chief points of difference are as follows: in Rheumatism there are no lithates of soda or chalk stones to be found as there are in Gout; Gout is more frequently found to be hereditary than Rheumatism; high living and the abuse of ardent spirits are far less likely to produce

Rheumatism than they are Gout; in Gout the pain, which is more severe than in Rheumatism, generally occurs periodically, and is most frequently seated in the phalanges of the toes; these differential signs together with an enquiry into the patient's past life and history will generally enable us to make a correct diagnosis of the case. Regarding the Prognosis, I have before remarked that "per se" Rheumatism is not a dangerous disease and is only rendered so by some complication of one of the membranes of the heart; if we have endocarditis, embolism is our great and most invincible foe as clots of fibrinous blood may form in the heart and not only give rise to death, but to

death of the most sudden and alarming description. In respect to the treatment of Acute Rheumatism there have been more disputes and debates, books and pamphlets each differing to a certain degree, that it would be solely impossible to mention or describe the half of them. One thing however is positive that the alkaline treatment should be adopted. The bi carbonate of soda and Potassa ℥i-℥ii has been used with great advantage; also the Iodide Potassium ℥ss; wine of colchicum seeds, six parts, laudanum, two parts; fifteen drops, three times a day, has also been used with great advantage. Citric Acid is frequently added to the Soda and Potassa making it a more palatable dose. Bleeding is still sometimes used if the fever be very high,

and the patient be a plethoric person. The danger of any affection of the heart is considered by some to be lessened as soon as any alkalinity of the urine takes place; this, then, if nothing else, would recommend the alkaline treatment to our use. Nutritious diet should be freely allowed. Tonics, as a combination of Iron and Cinchona Bark, are used to promote the system, to a considerable extent. Warm and hot baths have been highly recommended by some practitioners; those of the Warm and Hot Springs, Virginia, have, of late years, gained considerable repute. For local treatment, like the constitutional, a number of applications have been resorted to. Among them, I may mention, the Chloroform Liniment as being

one of the best; what is known as "Volatile Liniment", formed by "aqua ammoniae" and oil, has also been used with good effect. Great relief has been afforded by placing flannels in a decoction of Carbonate of Potash and rose-water, wringing them slightly and applying them to the part or parts affected;— Stokes Liniment has also been used with very good effect. Dry flannels in which the affected parts are to be enveloped are also found to prove useful. Independent of all the remedies mentioned the patient's general health must be regarded. If any symptoms of cardiac disorder ensue they must be treated accordingly. Good healthy diet, tonics if required, free ventilation, temperature moderately warm, good assiduous nursing, and with frequent attempts at teething

the spirits of the sufferer;— These things, not mentioned in the Pharmacopœia, being accomplished on our part, we may hope to see our patient soon free from pain, with unbounded gratitude both to Nature and his physician!

I have said that Rheumatism is unfortunately very often associated with Endocarditis and Pericarditis, and that Endocarditis is by far the most frequent; it now becomes my duty to say something in regard to the symptoms, diagnosis and prognosis, treatment, etc. of these two affections. Pericarditis, or inflammation of the Pericardium; the disease is generally considered and examined under three heads or stages; and, according to Professor Flint," the first stage extends to the time when effusion takes place to an

extent sufficient to be appreciated by the physical signs. The second stage, or the stage of effusion, continues until the liquid is absorbed. The third stage extends from the absorption of the liquid to the recovery, and this is, generally, the stage of convalescence".
When there is inflammation of the Pericardium in Rheumatism, the inner coat almost invariably will be found to be also inflamed, but this rule does not, by any means work both ways, as Endocarditis is frequently found to exist only as Endocarditis. The chief symptoms of the first stage of ~~Endoc~~ Pericarditis are weakness, slight fever, pain in the region of the heart and considerable cough; after effusion takes place the patient experiences pain, which nevertheless, is not so

much noticed by him as the excessive dyspnœa and feeling of suffocative faintness when any motion is to be made; delirium, chiefly of the muttering kind is often present, though at times it becomes of the wildest raving description. In regard to the third stage, either the liquid gradually becomes absorbed; or, in case of the non-absorption of the lymph, it either becomes chronic Pericarditis or else death either sudden or prolonged severs the golden thread of life and pains and sorrows are past and gone. The Diagnosis is not so difficult, if we remember how frequent inflammation of either of the membranes of the heart are in Rheumatism, and noticing as we will, the characteristic friction-sound during the first stage. Venesection was at one time employed in

Pericarditis, but it is doubtful if it was ever as efficacious as was supposed by some, except when it occurs a primary affection and not a sequela on another disease. The use of opium, digitalis with small doses of mercury are the medicines that we should place the most confidence in, together with warm applications to the chest, and, when effusion shall have commenced, blisters may be applied. During convalescence good food should be allowed to the patient, and if he be very weak, that is, more debilitated than he should be, even in convalescence, mild gentle tonics should be prescribed. Frequently after convalescence adhesions are found which was formerly supposed to have led or tended to hypertrophy of the heart; this however has been now

satisfactorily proved to have been an error.

Endocarditis, or inflammation of the endocardium, is a disease characterized by a more or less exudation of lymph, and also, at times, by warty fibrinous growths that become loosely attached to the membrane; if they become detached they produce embolii which as I have already said, is what we have most to fear from in this affection.

The symptoms are slight pain in the præcordia, irregularity of the action of the heart, morbid sounds of the heart in a normal condition, for the bellows murmur is invariably present, and always takes place at the contraction or systole of the heart; this sound results from the roughening of the surface of the Endocardium, caused by the exudation

of lymph. The mitral murmur however is the chief diagnostic sign of Endocarditis. The Prognosis in this disease is invariably favourable, as it is not even likely to terminate in Chronic Endocarditis. In regard to the treatment of this affection it is of course of the anti-phlogistic kind; blood-letting may at times be employed, but no rules can be laid down with respect to this mode of treatment; the practitioner must be governed by the condition of the case and the patient before him. Depletion by purging is absolutely necessary. Calomel has been given with good effect; digitalis has also been used. Counter irritation over the region of the heart is always necessary, it is best made by some stimulating embrocation; leeches have been placed over the precordia,

but it is doubtful if they are as beneficial as was formerly supposed.

II Chronic Rheumatism.

There are so many different forms of disease treated under this head that it is impossible to even name them all, I shall therefore confine myself to a brief view of the differential points in symptoms and treatment between this affection and acute Rheumatism.

The great test in this disease is the anchylosis of the joints, rendering the patient, to a certain degree, helpless if not deformed. The pain is less intense in this form of Rheumatism than it is in the Acute, but the blood is supposed to be affected by "the same" in "tries morbi". As regards the treatment of Chronic Rheumatism it differs from that of

II

the acute simply in this point, that the use of alkalies is not kept up for so long a time. A very good prescription for this disease is Sulph. Magnesiae ℥ij, Wine of Colchicum Seeds ♏x ;— Tonics are required; a very good combination is made of the Syrup Iodide Iron and Iodide of Potash; Vichy and Kissengen waters are considered as very good remedies; Veratrum has also been used with good effect; the tincture of Guaiacum ʒj ʒiv given three times a day has found great favour in the eyes of some practitioners. Locally, red flannel appears to possess some peculiar virtue when worn on the part constantly by the rheumatic patient. With reference to the general treatment I had forgotten the use of medicated baths, as sulphur, iodine etc., they have been thought

to be extremely useful and have been greatly employed by the French.

Finally, change of climate and scene acts beneficially, and, even if we may not expect to perform a complete cure, we can at least hope to prevent, as far as possible, that pitiful state of distortion that is occasioned by anchylosis.

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AN

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ON

Rubeola

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By

William Houston

Of

Kent County Maryland

Session of 1868 & 69

Rubeola.

Rubeola or measles is an exanthematous and contagious disease, preceded by chills and shivering fits accompanied by watering of the eyes, sneezing and a hard dry cough, and characterized externally by an eruption of small red spots of the size of flea bites, which decline towards the seventh or eigth day, followed by a bran like desquamation. There are five varieties of measles. Rubeola vulgaris, Rubeola simularrho, Rubeola nigra, Febris morbillosa, Rubeola maligna, Measles begins with alternate chills and flushes, general uneasiness, lassitude of the limbs, and a depressive feeling, pain in the head with drowsiness and a tendency to sleep, the pulse

is accelerated, the skin is hot and dry, the tongue whitened, thirst, stomach irritable, nausea sometimes vomiting, on the second day of the attack all these symptoms are aggravated, the eyes are red and weep incessantly, the sneezing more frequent, itching in the nasal fossa, running at the nose. The throat is slightly affected, cough commences, and in very young patients, drowsiness, slight convulsive fits, on the third day the symptoms increase severely, the eyes are more sensitive and inflamed than ever, the lids are a little swollen, dry and frequent cough, hoarseness, dyspnoea; a sense of constriction, and not infrequently, with drowsiness or delirium, sometimes in children, have diarrhoea when cutting their teeth, or a copious sweat; of a sweetish

sour odour precedes the eruption which shows itself about the fourth day from the beginning of the symtoms, which is about the tenth, to the fourteenth of infection. Stage of eruption, small red spots distinct from each almost circular, but little prominent and very similar in all respects to flea bites, appear first on the forehead and chin, nose, cheeks, and around the mouth, and spread during the same or next day, over the neck, breast, and the limbs. This eruption is almost always accompanied with itching and great heat of skin, the greater number of these small spots are in a short time replaced by others of a larger size, which are disposed in clusters. These two kinds

of spots are blended and lost in the neighbouring skin, under the finger no impression is felt of a rough or uneven surface. The semicircular patches are formed by the junction of the small red spots and the little (points) that compose them may often be counted upon the circles which are seperated from each other by spaces where the skin preserves its natural color; the color of these spots are not so vivid than that which the integuments presents in scarlet fever; the redness disappears on stretching the skin. Small rosy colored spots are sometimes seen on the skin which gives the eruption a peculiar appearance when very numerous. On the fifth day the red color of these patches is at

its height, on the sixth day, the patches there begin to decline, at the same time become more abundant, and higher colored on the body. On the fourth day, small dull red spots are sometimes seen on the uvula and other palate like those seen on the skin. On the fifth day they become confluent. This inflammation causes the patient to complain of dryness and roughness of the throat. When the eruption is completed all these symptoms decline considerably in intensity sometimes, sometimes disappear entirely. Declining Stage. On the fourth day of eruption, the patches die off in the order of their appearance, and assume a pale yellow color. The epidermis soon begins to be detached in

in a very minute furfuraceous scurf from the parts which the redness has left the skin now becomes dry and rough, is affected with prurilus that lasts till the tenth or twelfth day, the desquamation does not occur, or is insensible, this is at least the case on certain parts of the body or on the patches of eruption. Symptoms of inflammation of the air passages decline at this period, the expectoration that children have at the breast, affects adults slightly - Rubeola sine catarrho. Villan observed during the epidemic prevalence of measles that a certain number of patients were covered with an eruption, whose external appearance and course were the same as common measles, differed by being unaccompanied with fever, catarrh,

coryza &c. He adds that an interval of several months, or even two years elapsed between the occurrence of this eruption and development of common measles, which generally happened three or four days after the non-febrile. It is generally known that one child out of a family may escape while all the rest will have it; when this one will only have the symptoms of the first stage and those of eruption, without the bronchial affection. Measles without eruption. This rarely, not less remarkable than those that precede it, has been observed during the epidemic prevalence of measles. Sydenham mentions anomalous measles in the year 1674 and a febris morbillosa that prevailed

at the same time, which was characterized externally by an eruption of patches upon the neck and shoulders resembling those of measles, from which, however, they differed in being confined to the neck and shoulders and not spreading over the whole body. Gregory; goes farther than this, he states, that he has seen measles without any eruption at all. Anomolous and complicated measles. In children who have fine and delicate skin, measles sometimes appears partially on third day; in others differently constituted, it does not show itself before the fifth or sixth day; its progresse is often checked or altogether stopped by exposure to cold, or the unseasonable use of purgatives, very often

often it happens that a patient is attacked with measles and complains of pruritis in the nostrils, is believed to have worms, a purge is given and the eruption disappear suddenly and can not be recalled. Such a recession of the eruption is often accompanied with pains in the bowels, diarrhoea, difficulty of breathing, delirium, convulsions &c.; in other circumstances the eruption appears on the arms after being seen on the face; or, otherwise it is not propagated to the limbs, which do not exhibit a single patch over the entire extent of the body. When diarrhoea occurs in the course of measles, it is sometimes a serious symptom, especially if it be accompanied by wrestlessness, and frequent

cough. Diarrhoea occuring during convalescence may prove according to its nature, duration and effects, dangerous, or critical or salutary. Convulsions frequently enough accompany this disease when it happens during dentition, and very often terminate fatally. During convalescence from measles, pustules is seen similar to those of ecthyma on the back, groins, and lower limbs, of a smaller size than that on the, feet, legs, thighs, and scrotum. In other cases we meet with chronic inflammation of the lids and margens of the eye, or of the conjunctiva with vesicular eruption of the ear, and enlargement of the lymphatic glands lastly, with bronchial affection, obstinate

cough, like that of hooping cough, inflammatory affections of the mucous membranes of the coecum and colon, of the lungs, pleura which are all frequently much more obstinate by their special cause than other inflammatory affections having the same seat and extent. This disease is often followed by phthisis.

The anatomical characters are not apparently different from those which are observed after other inflammatory affections not of a specific character. Laennec conceives that the suffocating orthopnoea which sometimes carries off children after measles, is caused by true idiopathic oedema of the lungs. It sometimes happens also that the death of the patient cannot be explained

by any alteration of the solids detected in the examination of the dead body.
The cause of measles is produced by a specific cause, the nature of which is unknown, and which in general acts no oftener than once on the same individual.
Some individuals may have frequent communication with patients labouring under measles without taking the disease.
Dr. P. Rayer reports a case of a young married woman having contracted measles communicated it to her eldest daughter, three weeks after, whilst a younger child who was by her side night and day, escaped entirely. The disease is usually observed in young children; adults sometimes suffer from it, elderly persons very rarely. Vogel

and others, tells us that infants at their birth have presented traces of measles. It more frequently attacks, after, than before teething; Dr. Barron has observed that angina and ~~pectoral~~ cerebral infections were the most common complications of measles in infants at the breast. The disease is communicated by contact or by infection; it may also be produced by the inoculation of the blood of those labouring under it, as the experiments of Dr. Home verifies by those of Speranza during the epidemic prevalence of measles at Milan (in) 1822 have proved. Speranza at first inoculated six boys, in one of the work houses, in which the disease was soon developed, and ran its course regularly and

mildly. The same experiment has been repeated by others, as well as, Spallanzani himself, under different circumstances. A very slight scratch or incision is made with the point of a lancet, over one of the largest and most inflamed of the measly patches, so as to draw a little blood. A few punctures are made in the arm of the party to be inoculated, with a lancet poisoned with this blood, and the part is covered with a bandage. The effects of this inoculation is generally manifested a few days afterward. Dr. Alexander Monro and Locke communicated measles by inoculating, with the tears and saliva of persons labouring under this disease. Measles most common, prevails as an epidemic at

the end of winter and beginning of spring. Diagnosis. During the period of contagion or of efflorescence, the existence of measles may be presumed if the fever be accompanied by redness of the eyes copious flow of tears, and of thin mucous from the nostrils, sneezing, pain and heat of the throat, dry and distressing cough; if measles prevail the time and the patient have not had the disease yet; if other members of the family are infected in the same way, or if any communication has been held with infected individuals. At the beginning of the eruption the diagnosis is not yet quite certain; the small red spots bear a strong resemblance to that of small pox

but are not long in being gathered into round bunches or groups. Measles presents different characters from that of any other exanthemata, and particularly from scarlet fever. The occurence of the eruption, in common measles, will always prevent the disease from being confounded with ordinary pulmonary catarrh, ~~sometimes~~ or influenza. At the close, morbilary catarrh sometimes gives occasion to a particular kind of expectoration. At first mucilaginous, clear and limpid, at the end of three or four days, the expectoration becomes thick, rounded into pellets, smooth on the surface, of a greenish yellow color remaining distinct from each other; and swimming in a large quantity of ropy

and transparent mucous like that of the matter coughed up by phthisical patient. In young patients this expectoration is wanting or not at all abundant; so also in many cases of adults having measles unattended with any expectoration at all. In reference to morbillary catarrhs which have been observed to occur during the epidemic measles, are owing to the specific cause of this disease they present several characters during life; adequate to distinguish them from common inflammatory affections of the air passages; the cough is sonorous, and has a peculiar harsh and hoarse quality; the expectoration is occasionally in pellets. It is not known whether a person having this

morbillary catarrh have the power of communicating common measles, accompanied with an eruption or not; a circumstance which, were such a power possessed, would constitute an important diagnostic feature in this disease. Prognosis. Epidemic measles, so generally a mild complaint in temperate seasons and climates, is often a much more destructive disease in inclement seasons and in countries that are either very hot or cold. It is a well known fact that the same town or the same province may be visited at different times, by measles as an epidemic, or a very benign, or a very destructive character. Mild and regular measles ought to give us no solicitude, especially when the symptoms decline after the eruption.

Treatment: When the inflammation of the air passages that accompanies the eruption of measles, is of no great intensity, and the disease advances mildly and regularly in its course, the treatment is very simple. The patient must be covered so as to defend him from cold and sudden changes of temperature, but not so as to make him feel oppressed with heat; he must be kept on low diet, and to use freely any mild or slightly diaphoretic liquid drink, to allay the coryza and irritation about the throat sweet mucilaginous drinks to take by the spoonfuls, inhalation of the vapour of warm water, to alleviate the coryza and soreness of the throat, the eyes must be defended from too great a glare of light.

Such are the means of the treatment of this disease.

William Houston.

AN

Inaugural Dissertation

ON

Cataract

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

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of

Washington District Columbia

Session of 1869

"Cataract."

Where in the catalogue of created things. Where throughout the universe entire can we find aught we meet with a structure more elegantly beautifully, and more delicately formed than the organ of vision the human eye; On the examination of what of our nature do we find a parallel. It stands in usefulness supreme. Delicate though it be however on the adjustments of its several tissues entering into its composition, however liable it would seem to be affected by the various vicissitudes is which we daily expose it yet how admirably it withstands all ordinary shocks. It is provided instinctively against objects which without and protection would greatly affect it and be a constant source of irritation

to us. Here then do we behold all done for our good by the Creator of all things; The studyy of so useful and beautiful an organ must then be both useful and beautiful and instructive. For a structure so delicate must be liable to many accidents and diseases. We see a vast number mentioned and by any of which it may be affected at any time. I have chosen for my subject:

Cataract. There are several kinds of which I will take up in this regular order. First comes cataract-what do we mean by that term why we mean an opacity of the crystalline or of its capsule, or of both. Symptoms. We as a matter of necessity you will before examining any patient with

or in whom you suspected cataract. the pupil should be dilated with belladonna and then if there be capsular cataract there will be seen behind the pupil an opaque body of gray dead white: and if lenticular cataract. of a bluish white. or amber color. As a general thing. the patient gives as his history that his vision has been gradually impaired; that objects appear of irregular outline or as if they were multiplied or surrounded by mist. a cloud was interposed between them and the eye. If lenticular cataract alone be present he will say that the sight is better in the evening or in a subdued light. or if in a room with the back turned towards the window or if by the application of belladonna

because the pupil, being dilated otherwise under these circumstances, permits light or more light to pass through that part of the lense which is as yet transparent a being opaque is thinn, and therefore affords less obstruction to light than the centre. In most confirmed cases, the patient is yet able to distinguist day from night.

Diagnosis. It may sometime be taken for other diseases such as Amaurosis, but it may be distinguished by taking notice that in cataract, an opaque body can be seen behind the pupil, and that the impairment of vision is, for the most part, in proportion to the extent of that opacity; whereas, in pure amaurosis in young people, the pupil shows itself natural color. Again, in cataract vision

is simply clouded and that a lighted candle appears as if enveloped in a mist: and in amaurosis objects are seen discolored or perverted in shape and flashes of fire when the eyes are shut are not present in cataract. Again the patient moves his eyes about as if anxious that vision still at the same time may be unable to discern particular objects: whereas on the other hand there is a fixed vacant stare of either darkness and the eyeball protruded. Again you have in pure amaurosis in the young before the lens begins to change color. the three images of a candle are as distinct as in the healthy eye. which is not the case in the cataract. So you see that a, extraordinary is running at all times. and then you will always be on the safe side

Causes: This disease may be caused by inflamation of the lens, or of its capsule or by wounds, in a very short time. But the ordinary cataract of old persons seems to be a mere of impaired vision. We will next take up hard or rather the Hard Cataract. We meet with this from only in old persons. It is caused according to some writers on the subject by grayness or opacity appearing in an already discolored lens: and the greater coloration of the lens, the less will be the amount of grayness to obstruct vision. After thirty a forty the lens naturally acquires a yellow color. Therefore the characteristic hue of the cataract in old persons is not the effect of disease. Sometimes it is of a very dark color, indeed some cases

are on record in which the cataract was so black that it could not be detected till the eye was examined by the ophthalmoscope, or the concentrated light of a most powerful lens. Some think that the change in such cataracts lenses are leafold. The nucleus becomes hard and dry, to a degree far exceeding what is ever seen in the healthy lens: while the superficial layers are softened, frequently to the state of a semifluid pulp. The nuclear lens tubes are hard, atrophied, and brittle, and are rendered more or less opaque by fine molecular deposit as well as by little cracks and fissures. Those of the superficies are softened, and more or less disintegrated: they are also dotted over with fine molecular matter which is also

found floating free in mass and filling up, and rendering opaque, many of the superficial lenscells. This molecular matter is probably the result of the coagulation of the albuminous blastema by which the whole of the lens texture are pervaded. The opacity as a general thing commences in the superficial layers of the lens, for it must pass in the form of streaks, converging towards the centre, or, more following the course of the natural divisions of the lens. Sometimes it commences in the nucleus, in the form of a cloudy opacity. When of long standing, the nucleus of the cataract assumes a uniform milky or white color. The next that comes up for our consideration will be the soft cataract.

: Soft-Cataract :- This form may occur at any period of life. While the hard is only found in persons above thirty fifty years of age. It is due from all appearances to disintegration affecting the whole substance of the lens, similar to that which affects only the surface in the hard form. In infancy the color is bluish white like milk mixed with water; and later in life there is less of the blue tint. It may be traversed with radii and streaks, which glisten very much. In this form vision is much more impaired than that of the hard kind. The iris is frequently pressed upon by the soft-cataract when the substance of the lens is much degenerated. This is only due to the

the swelling of the lacrimal lens from imbibition of moisture. but we are not certain as regards our statement that it is caused by unnatural vascularity in the deep seated texture of the eyeball. The next that we will take up is the capsular form.

Capsular Cataract:— The opacity may be general or may commence partially. it is generally of chalky whiteness rarely ever shining. and always showing some opacity in what ever way it may be viewed. it is not unfrequently the result of a slow inflammation which may come on with pain in the ear. Again it may be produced by inflammation extending from the iris. The opacity ~~of~~ the anterior portion may be seen behind the iris. and that of

the posterior appears at some little distance behind the pupil, and presents a concave shrivelled surface of a dull yellow appearance.

Treatment: Cataract must be removed by operation. An operation however should not be done till the disease is quite mature, nor till the patient has been put in a good state of health as possible for the operation. There are three the First Extraction. Second, Displacement. Third Solution.

Operation for Extraction: This is the best for the hard cataract, and consists in the entire extraction of the lens. It is very difficult to be successful as requires much skill and great knowledge and practice. The instruments are a knife

a triangular blade: the back straight and blunt: the point sharp: the edge slanting obliquely. The great advantage of this shape are that it fills up the incision and prevents the escape of the aqueous humor. and the flap of the cornea is made by one simple motion, by pushing the knife onwards. Second the Curette: an instrument with a curved needle at one end and a spoon on the other. Use a knife to enlarge the incision if required. Fourth the a short hook. The patient may be sitting or lying down but bellers have their lying of the will submit to it. The operator. use his right hand for the right eye. and his left for the left eye. An assistant draws down the globe. The operator with the forefinger

of the non operating hand, raises the upper and locks it under the edge of the orbit: first resting the point of the forefinger against the surface of the globe, and that of the, and that of the middle finger against its inner surface so as to steady it. Then holding the knife lightly with the thumb and first two fingers of the other hand, and resting the hand against the side of the face he commences. First by puncturing the cornea at the centre of its outer margin then the blade is pushed gently across to cut as nearly that the knife rung perpendicular the outer side of the cornea opposite the first puncture so as to form a semicircular flap, of the upper edge of the cornea.

just when the incision is completed: which should be carefully done. The cyclitis should be dropped and all pressure ceased. Thirdly: Having waited a few moments the surgeon lifts the upper lid sufficiently to expose the cornea. lets the patient to look towards the floor, so that the globe may be directed downwards. He then introduces the curette and freely lacerates the lens. Thoughtly. He makes very gentle pressure on the under part of the globe, and on the upper part of the cyclitis. lets the lens issue through the pupil an excursion. and last of the operation the operator the eye should be opened for a few minutes to see that the flap of the cornea is rightly adjusted and that the iris is not prolapsed if it is the eye should be

expand to a bright-light so as to make the pupil contract and the prolapsed portion should be pressed upon with the spoon of the curette. Complication: Very often in consequence of the escape of the aqueous humor, the iris falls forward under the edge of the knife. If the point is entangled the iris the iris it is necessary to withdraw the instrument by to heal the wound and operate afterwards. If a bitt should get under the knife when the section is complete and attempt should be made to extract it by pressing on the cornea just over it with the nail. But if this does not readily succeed the operation may finish on holding of a bitt, iris is cut it is of no consequence. Secondly: If the opening is not large enough it must be opened with the secondary knife. Thirdly: If a portion of the

lens remains behind, it should be left to be absorbed. unless unless it has passed into the anterior chamber, and can be removed easily. Thirdly If the patient human is disposed to escape, the cataract should be hooked out with a hook. The after treatment is always necessary. You should put the patient to bed, with the shoulders raised the room darkened with soft-dry linen say over both eyes. The bowels should be kept open. and all things that tend to provoke coughing avoided as far as possible. The diet should be spare as usual but in diminished quantity. If anything goes on well the eyes may be opened on the seventh or tenth day. and if there is no prolapse of the iris and the cornea be united he may get up and walk around for a little while. After

too weak the eye may be opened in a very weak light and gradually brought to use. But if is certain to be weak the patient should take the greatest care of it to avoid cold overexertion of the eye excess in diet or exposure to too strong a light. The patient may wear a pair of green or dark blue spectacles to protect the eye. he should have two pairs one for a short focus and one for a long focus. There are two kinds of inflammation which may come on after the operation. If the eyelids are swollen and flushed, there is a thick yellow secretion about the lids and conjunctiva is red and swollen the inflammation is acute, and requires to be treated by bleeding and purging. feed the patient on good broth and carbonate Ammonia opium &c. how-

we will take up displacement. Displacement. We mean by the operation that the cataract is to be removed from the axis of vision. It is a very violent operation and only resorted to when there is hard cataract, of which extraction would be inadvisable. We have some disadvantage that of the pressure of the lens on the ciliary processes and the retina is liable to be followed by inflammation. and again it may arise in its old place and obstruct vision. The preparation of the patient and that of the Surgeon and his assistants are the very same as that when we perform the operation for extraction. Operation. You take a curved needle and it is passed through the outer side of the scarlotica about one $\frac{1}{5}$ or $\frac{1}{6}$ of an inch

behind the margin of the cornea, and in the transverse axis of the globe. You carry it into the vitreous humor. The posterior capsule of the lens is lacerated, and the upwards and forwards, behind the iris, and then in front of the cataract. Then steadily and gently press upon it until it is carried downwards out of sight. You must then hold it down for a few moments to fix it and if it rises again it should be depressed again for a short space of time, and then withdraw your needle. The treatment will be the same as that for extraction. Now we will take up the Operation of Absorption. This is very easily accomplished and does not excite much inflammation, but requires a repetition sometimes. The case will be easy

several weeks and indeed months. It is a very good method for soft cataracts — and also very good for congenital. but the same cannot be said of they that appear in old persons. The needles to be used may be either straight or curved they are now made of delicate strength — and very sharp. You may adopt the same method as that for depression that is by passing the needle behind the iris in the same manner. Again the needle may be passed through the cornea. this operation we call the anterior operation. It is the most safe and simple and most less painful. and not so much danger in injuring the eye. being as the cornea is less vascular than on implicating the external humor. and the other, vessels of the eye. The needle is passed through

the cornea about one eight of an inch $\frac{1}{8}$ from its margin, and is made to lacerate the capsule to the extent of the pupil, so as to admit the aqueous humor to the substance of the lens. But you must not attempt to do too much. The operation is liable to be followed by pain and even vomiting of a portion prees on the iris. The operation may require to be repeated. The last thing I shall speak of is the Operation on Infants. Often they have congenital cataracts. They should be operated on soon say in about four or six months become. the eye. which when born blind. habitually oscillates from one side to the other, and never have the power to look in any particular direction or at one particular object

The pupil being well dilated, the child must be put under chloroform to cause perfect quiet. You should place the child on the table and put the head on a pillow and assistant attending to the head and another holding the legs and you must hold the child perfectly quiet to insure success. You then place a speculum in the eye which acts very beautifully indeed, provided you fix it so that it will stay fixed then you will have very little trouble. It is always best to operate on one eye at a time and then see the effect of that one and then take the other. You must take good care of the child good nourishment the bowels must be kept open.

and if there is much pain you may apply leeches. This ends what I have to say on my subject. I have tried as far as possible to give a good description of this disease and the opinion and treatment. I intend to try and make a Surgeon. I will have to study carefully the diseases of the eye for a double motive first to relieve and cure them and secondly we have to see and treat many of which been without. The eye is one of the most beautiful organs with which we have to deal. This has I tried to make as plain as possible, and now I will close and submit it to my Honored and esteemed faculty of our long loved and cherished Alma Mater

William L Naylor

AN

Inaugural Dissertation

ON

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Of

Session of

[illegible]

[illegible] art among men both more scholars

and fewer masters.

To

Richard McSherry, M. D.

Professor of

Principles and Practice of Medicine

In

The University of Maryland

School of Medicine,

This Essay

Is most respectfully Dedicated,

As a Remembrance of his Kindness

During the Time Spent in

His Office as a Student

of Medicine,

By

His Friend

Albert Stephens.

Baltimore, Maryland.

Dentition.

Numberless are the maladies of childhood and Protean are the forms of disease that attack the human race in the first stage of life. Well does it become the Student to apply himself thoroughly to his work if he at all desires to become master of the situation. Earnestly should he endeavour to comprehend the case in all its bearings and [illegible] — the most rigid care and attention are for this patient. The practitioner who so acts will have frequent occasion to congratulate himself upon his success. And even when all

this case [illegible] [illegible] [illegible] [illegible] will

still feel free from blame whatever

[illegible] [illegible] [illegible] [illegible] [illegible]

by others.

Today we meet a case that [illegible] from

us scarcely any aid; tomorrow the

same disease baffles our utmost en-

deavours, [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]

[illegible] our [illegible] [illegible] [illegible]

Prominent among the [illegible] of

childhood stands that form of zymotic

disease [illegible] as [illegible]. It

manifests its presence by an eruption

which places it among the exanthema-

tous fevers and is a good example of

[illegible] [illegible] [illegible] [illegible]

[illegible] degree of severity from [illegible] that
[illegible] most deadly. [illegible]
was not even compel: the patient to
take to bed. But in another instance
it breaks out with extreme violence
and it is [illegible] that [illegible]
[illegible] [illegible] the friend or [illegible] the
physician is [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
the presence of the [illegible] [illegible].
The names simplex, vaginosa and
[illegible] most [illegible] [illegible]
characteristic of this [illegible]. [illegible]
in the simple form it runs onward
in danger and severity, until the
malignancy is [illegible] [illegible] [illegible]
we watch its fearful progress.

It may differ widely in regards the symptoms, still it is essentially the same in exhibiting the influence of the one zymotic poison.

The pathology of Scarlatina is yet very obscure. The most prominent and constant of the local pathological conditions are the scarlet appearance of the skin and an affection of the throat of a similar character. The mucous membrane of the digestive canal may be affected and the pathology [illegible] in more [illegible]. The [illegible] organs and fluids [illegible] the skin [illegible] may be reached by the direct action or influence of the materies morbi.

Other lesions are most probably due to the effect of complications occurring in the course of the disease.

The stage of incubation is not very well marked but has been found to last about five days. Then follows the invasion, marked by languor, irritability and headache, frequently accompanied by rigors and nausea or even vomiting. Then are found on the hard palate, uvula and the throat redness and swelling and usually there is some enlargement of the glands. Pleuritic and other complications sometimes found. We have all the usual signs of fever but the heat is greater and the pulse more rapid than in the other eruptive fevers.

Vaccination follows the eruption [illegible] in a few hours, generally on the second day after fever, though in bad cases it may be delayed several days. The rule is for it to appear first on the face and then to spread over the body and limbs within a period of twenty-four hours. But [illegible] this has exceptions and other modes of proceeding is sometimes reversed. Minute dots first appear and these increasing in number form patches of irregular shape and size, which may remain distinct but generally unite and cover the whole surface of the body. The eruption [illegible] on a bed of hard [illegible]

the [illegible] of the papillæ [illegible] on the tongue
surface of the tongue, [illegible] these [illegible]
the skin is more tender. [illegible]
different and [illegible] shaded [illegible] forms
which have a deeper hue than the skin
surrounding them. These points are not
always equally prominent but in some
instances the papillæ are enlarged and
give the appearance called "Strawberry"
and impart a feeling of roughness to
the touch. The redness disappears on
pressure and does not return for [illegible]
seconds after the removal. The tip of
the point of a pencil [illegible] it
will leave a white line. [illegible]
and pruritus accompany the [illegible]
and the integument is visibly swollen

by the congestion of the cutaneous vessels. Early in this stage the centre of the tongue is covered with a white fur, through which can be seen the enlarged papillae. The eyes generally remain clear until when the swelling commences the tongue forms the strawberry appearance which is so characteristic as to be almost pathognomonic of the disease. The cutaneous eruption varies much in different cases and frequently when slight it appears as if the poison had not concentrated on the throat. The eruption may actually recede and again return, and it may be followed a week later by a second rash or even during a fatal exacerbation.

The trouble in the throat may be very slight, and a simple efflorescence with a little soreness may be all; and in a few instances the throat will escape entirely. In other cases the tonsils, uvula and the fauces are covered with a distinct non-membranous exudation. This deposit looks very much like the slough over an abscess, but in the tonsils usually there is no loss of substance. The crystal glands become swollen and tender, the voice is nasal and deglutition is very difficult and painful. The fever does not diminish as the appearance of the eruption but rather increases. The pulse rises as high as 140 and even higher in children. Nervous delirium is common.

the skin is hot and dry, the heat varying up to 106° F. The appetite is still wanting, the bowels constipated, there is great thirst, great disturbance of the mental faculties and some delirium and stupor, and the sufferer is much affected by the motions and sound of steps. Albumen occasionally appears in this stage and may be transient or a symptom of importance indicating renal disease.

The stage of eruption continues from four to six days the rash usually beginning before about the fifth day of the fever.

The stage of desquamation follows the fading of the eruption, either fondle to

its entire disappearance or shortly after it has completely faded away. The extent of the desquamation depends upon the degree and extent of the eruption. On the body the cuticle desquamates in branny or furfaceous scales, but on the hands and feet in large patches, sometimes giving complete casts of the extremities. When there has been no cutaneous rash, there will of course be no desquamation, and when the eruption has been severe the epidermis may exfoliate several times. With the fading of the eruption and the progress of desquamation the fever declines, generally slowly but sometimes passing off quite suddenly. During convalescence the patients is emaciated and gains great distress.

[illegible] appears more frequently in the urine during this stage than in the stage of eruption and as then may be trivial or of great importance and in both instances should receive careful and prompt attention. Convalescence may now be considered being pretty well established unless there should be some complication. Complications not infrequently occur at this time and care must be exercised to prevent them or the case may be lost when otherwise all would go well. Appetite of the [illegible] is usually returning from the completion of the desquamation, but it may be accomplished in half that time or it may require [illegible]

[illegible] for [illegible] attended in [illegible]
the history of the symptoms and course
of the milder form of scarlatina, in
which no complication has occurred and
where no untoward accident has at
all interfered with the normal progress
and decline of the disease. In scarlatina
simplex the fever is mild, the trouble in
the throat not very serious. The eruption
comes out well and regularly and in the
time disappears and the desquamation
progresses favorably. Not some of the
other varieties present far different aspects.
In scarlatina anginosa the cutaneous
eruption is slight and the force of the
disease is spent upon the throat. The
tonsils swell greatly and suffocation

is established in the pharynx and the inflammation is found there. In the pharynx or throat, frequently, membranous diphtheritis is found on the fauces and on its removal is found the membrane surface beneath. The rash is mottled and rose colour of almost every character is found and interferes with respiration and consequently deglutition almost impossible.

The mucous glands are swollen and the effusion forms is established in the surrounding cellular tissue. The inflammation spreads in every direction. It may reach the mouth and even rarely extends into the bronchial tubes.

The eye may suffer and the contagion pass through the Eustachian tube into

the internal ear and the hearing be [illegible]. There are [illegible] that may occur at any [illegible] from that no case is safe however mild it may have been. They may come on even when desquamation has been completed and convalescence [illegible].

In Scarlatina Maligna the outbreak is sudden, the influence of the morbid material greatly intensified, the vital forces fearfully depressed, the confusion of the poison is [illegible]. The system cannot struggle through the first assault, the reaction is deficient, and death may [illegible] before [illegible] the appearance of the eruption.

The physical appearance of dropsy caused by a deficient condition of urine gives a good reason for believing that the secreting surface of the kidneys are in a condition analogous to that of the cutaneous and mucous surfaces. The inflammation of the kidneys may occur during the disease we follow are equal and is one of the great dangers to be watched and carefully guarded against. The appearance of epithelium and tube casts marks a much more serious involvement of the kidneys than simple albuminuria and is certain to be followed by a still more deficient secretion of urea — the excretory should do the same

Delirium, coma and convulsion may be due to the [illegible] poisoning or may be occasioned by the violence of the disease.

There can be no doubt that the poison of Scarlatina is contagious, but it seems to be very uncertain in the manifestation of this quality. Some do not seem liable to take it, but others will be affected by very slight exposure. Children between the ages of three and five are most susceptible to the contagion.

During the inception of the disease there is some little danger of confounding this disease with Rosiola, Measles or Varicella, but with care these

mistake should be made but seldom and if made should be soon corrected. In Rubeola there is little if any fever, no sore throat and the eruption is partial and distinctive over the whole body. In Measles there is no sore throat, the eruption is partial & falls in the eruption appears later in the fever and the catarrhal symptoms will confirm the diagnosis. In Rubella the throat is not affected and the febrile and irritative symptoms of the eruption upon much the earlier of the attack. Still in a few cases the diagnosis will remain doubtful, unless cleared up by the occurrence of some of the known sequels.

If the appearance of an eruption resembling, both from and redness in the fauces would be fairly conclusive evidence of the existence of an attack of Scarlatina. This would be still more probable if the symptoms should occur in a child between the ages of three and five years.

The prognosis of Scarlatina is one of the most uncertain subjects with which medical men have to deal, for the mildest cases may at the commence reach the most malignant form. In mortality it ranks third among the contagious fevers being surpassed only by the Typhus and Typhoid fevers.

There is danger not only from the disease itself but also from the complications, and in some epidemics the mortality is much greater than in others. Delirium and a rapid feeble pulse [illegible] in the throat, laryngitis and great swelling of the cervical glands are bad symptoms. Pain [illegible] after hemorrhage has occurred or when vibices and petechiae have appeared beneath the skin. Coma or any signs of uremia [illegible] and [illegible] are [illegible] than failure of the kidneys to perform their work and may come on at almost any period and even in [illegible] cases.

Meningitis is essentially a disease of childhood and is not often found among adults. Among adults the prognosis is much more than among children and especially is this the case when the disease has attacked a woman in the puerperal state.
From what has been said of the prognosis it can readily be inferred that as yet no specific medicine nor course of treatment has been discovered for this alarming and fearful disease. Unless the poison is too overwhelming Meningitis is essentially a self-limited disease, and our wisest plan is to watch it most carefully and do our best to lead it safely through its course.

The active measures of bleeding, drastic purgatives, blisters and emetics have almost entirely gone out of use in this disease, but is more than probable that the reaction has been carried too far.
Hamilton has used bleeding in certain sthenic cases and thinks he derived benefit from it. And purging is most clearly useful and necessary in those cases where contagious poisoning has begun to manifest itself.
The mild form is said "to be fatal only through the officiousness of the physician" and it is certain that but little medicine is needed. We must ensure free opening of the bowels, prevent constipation and with the fever by cooling drinks.

The clothing should be sponged and the skin kept well up to its work. The diet should be light and digested but not low, but rather nourishing. The asthenic character of the disease manifests itself and demands full and free support.

Small but efficient doses of the saline purgatives may be used to cleanse the bowels acting also to reduce the heat of the fever, and should be followed by the neutral mixture or effervescing draughts containing diaphoretics. Spirits of Nitrous Ether may be given in small doses for its combined diuretic, antiseptic and refrigerant influence. Tonics of bark, gentian, valerian and

[illegible] be freely used. The restlessness is to be [illegible] by bathing, and [illegible] anodynes are frequently necessary. It must be remembered the belladonna, hyoscyamus and other narcotics of opium are to be preferred, though operations may be called for. The irritation and pruritus of the skin demand bland sponging and soothing or emollient applications, such as cold cream or the [illegible] tissue, and a solution of glycerin [illegible] sugar water. The bacon rind of [illegible] water is and should be very good application, but is not real enough to find favor with many.

Chlorate of Potassa is used both as a gargle for the throat and as a gargle internally. Gargles of Tinctures containing Myrrh, Capsicum or Tannin have been found beneficial. Muriatic acid and honey are still better especially when there is any tendency to the formation of false membrane or ulceration and foetor of the breath. Nitrate of Silver, the inhalation of steam from hot water, the Permanganate of Potassa, Chlorine water and the so called Chloride of Soda have all been tried and highly recommended. In malignant cases from an early stimulation is absolutely necessary. Internally should be given Brandy,

fetidity, Ammonia and Turpentine and Nitric acid have been used with good effect. The reaction must be aided by the application of warmth to the extremities externally. Hot mustard baths, bottles filled with hot water, and mustard plasters have been found most serviceable. The uraemic coma must be combatted by free purging with jalap or some other drastic cathartic.

The Septics are thought to have some peculiar power over the various zymotic diseases and are possibly worthy of trial in Scarlatina. The bicarbonate of Ammonia has not held the place of a specific for this disease claimed for it by Wilson. Still is doubtless of

[illegible] and is thought to have the power to prevent the formation of the heart-clot spoken of by Richardson. The swelling of the neck and cervical glands is best met by the use of warm fomentations.

The most constant and important sequelæ of scarlatina is dropsy which is just as likely to follow a mild case as a severe one, possibly because less care is taken to prevent exposure to cold. This should be guarded against during convalescence and the patient should not be allowed to leave the house for several weeks after the desquamation has been completed. When a profuse transudation may appear and suggest treatment the

prior of importance. Among the sequelæ may be mentioned Rheumatism, abscess in various parts of the body, suppuration in the joints, Orchitis or Vaginitis, inflammation of the heart and pericardium. The dropsy must be treated with mild but efficient diuretic medicines and baths and sometimes counter-irritation over the kidney region. The other sequelæ do not require anything peculiar in their treatment on account of their connection with Scarlatina.

The best means of preventing an attack of Scarlatina is exclusion from the presence of the fever. All other measures are uncertain. It has been

would that Belladonna has any prophylactic power in regard to the Scarlatina poison. It is matter has been fully tested and it has been found wanting. It was tried in the British navy in 1853 but failed to exert any salutary effect. Still as only minute doses are considered necessary we may comply with the wishes of parents and friends and use Belladonna freely. The drug only poisons without at all giving any effection to the skin.

Remembering the great varieties in character and intensity that Scarlatina presents in different cases we must be on our guard against

[illegible]

Yet if we allow ourselves to be imposed
on our part it may be death to our
patient and ruin to our reputation.
It was was the cause of hastening
and thus should we endeavour to
counteract its action and support
the powers of life so that they may
be able to overcome the poisoning
and depressing influence.
Success should only stimulate us
to reach still higher and defeat
should not dishearten, but lead us
to inquire the reason why it so
happened and so furthermore we
may be better fitted for the
next struggle with disease.

AN

Inaugural Dissertation

ON

Variola

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

J. Brooke Doyle Jr.

of

Carroll County Maryland.

Session of 1869

Variola

This much dreaded disease is of less interest and importance at the present day than it was previous to the close of the Eighteenth century, and it is owing to the discovery of Vaccination by Dr. Edward Jenner, after a series of observations and Experiments which had occupied his time for twenty years, the fruits of which have been the saving of an incalculable number of lives, and have been destroyed by one of the most loathsome diseases, and the prevention to an Extent which can not be computed, of the disfigurement, and other distressing effects which Small Pox is apt to

bring about, when it does not prove fatal. Of all the benefactors who have ever lived no one has conferred upon mankind such palpable, and time lasting benefits. Yet outside of the medical world how many are ignorant of the name of the discoverer of Vaccination. The practice of vaccination met at the outset with much hostility but Jenner lived to see it triumph over all opposition, and to witness the beginning of beneficent results which will accumulate from age to age until the end of the world. Having now made an introduction consisting of points of some historical interest. I will speak in detail

of the disease. It is an acute in-
flammatory and contagious disease
which shows itself on the external sur-
face of the body in the course of the
third or fourth day from the invasion
by an accumulated eruption which
appears at its height between the seventh
and eighth days. having in the mean-
while become pustular and depressed
in the centre. the pustules after this
still continue in a state of suppur-
ation during a secondary fever of sev-
eral days duration they then dry and
become covered with scabs which finally
falling off towards the end of the third
and occasionally of the fourth week leave
small irregular and generally per-

manent cicatrices on the skin unless measures be taken to prevent such. Of this disease there are two distinct varieties, the first known under the name of natural and the second, of the inoculated Small Pox. The first of these forms, presents five well marked periods. They are, Incubation, Invasion, Eruption, Suppuration, and Desiccation. In one instance the pustules are exceedingly numerous, and united to their corresponding edges. In the other form of the disease the pustules are fewer in number and are distinct or scattered singly over the surface of the body. In the second form} In the second form constituting the character of the

[illegible] Eruption [illegible]
is generally a great deal [illegible]
by the complaint we meet with in
the [illegible] stage of [illegible]
and severe pains in the back
and limbs, with thirst and want of
appetite, with which is soon asso-
ciated uneasiness of the stomach.
The duration of these symptoms is
about from 1 to 3 days, aggravated
by febrile exacerbations, after which
the eruption begins to appear, it is
most always found first upon the
forehead and temples, then the
scalp, then on the cheeks, breast
back, on the arms & the [illegible]
the abdomen and thigh, [illegible]

on the fore arm and hands, and to
many of the [illegible] [illegible]
popular Erythema [illegible]
the skin is of a slight livid hue
and in the course of [illegible] or [illegible]
days the increased [illegible] [illegible]
the Erythema also [illegible]
[illegible] [illegible]
[illegible] [illegible]
[illegible] [illegible]
[illegible] constitutes what is familiar-
ly known as the secondary or sep-
p[illegible]rative fever. The pulse becomes more
or less frequent. The heart of the skin
is raised, and the [illegible]
an increase of temperature [illegible]
ing in the evening [illegible]
the morning. The [illegible]
up the line are [illegible]

cease. In mild cases the secondary fever lasts but for three or four days. Then follows the Desiccating period, which commences generally on the fifth, seventh, or eighth day. During this period the patient gets rid of the skin disease. The vesicles in the first part break and the pus concretes into a thick scab if it be a confluent form, patches from coalescence of a continuous scaly crust. The disappearance of inflammation and formation of the scabs are first seen on the face, afterwards on the trunk, lower Extremities and upper Extremities. During this stage the

skin exhales a sickening characteristic odor which, when once experienced can never be forgotten.)
Small Pox is a highly contagious disease; it is transmitted by medium or immediate contact. The contagion extends to some distance in the atmosphere and can easily follow the wind, it is probably communicable at all stages but undoubtedly most highly so, during the stages of suppuration and desiccation. The matter from which the vesicles, pustules, crusts and scabs are formed, held the virus, and the miasm is not only emitted from the skin but is held in the expired air

and in the intestinal excreta. It is not only communicated from the dead body by means of the virus, but from the living. It spares no sex nor age not even excepting the fœtus in utero which may be attacked through the mother of the fœtus though she should not have the effects of the poison either from having been previously vaccinated or had the Small Pox naturally or by inoculation. This disease appears at all seasons and in all climates. It does not generally attack the same person oftener than once; but there are instances well authenticated to the contrary. Some individuals even show a predisposition to take

it a second time and even oftener. But the most rational cause is an unsuspected exposure. Before the appearance of the eruption, the diagnosis of this formidable disease presents great uncertainty, even when every attention is given to the prevailing constitutional characters or evidences. The precursory symptoms of variola are common to many diseases, once guilty they were important only when it is known that the patient has been immediately exposed to the influence of the variolous contagion. The second stage of the disease can only be confounded with those of pus

lular Varicella which present the same flattened appearance, that here are much less uniformly depressed in the center, resembling during a slight fever and are of a duller white color. Furthermore this kind of Varicella is not accompanied by any secondary fever and Small Pox is. Indeed it may be said with certainty that the travel like appearance of the vesicles is pathognomonic of this disease. But as an early diagnosis is so essential it is not just once right to wait for the Eruption. Consequently we must go back farther and see if there be not some sym-

Thus by which we can make our diagnosis with nearly as much certainty. for instance pains in the loins with febrile movement, taken in connection with the absence of the symptoms which attend the access of the other eruptive fevers, and of typhoid fever, should excite a strong suspicion of Small Pox, especially if the patient be not protected either by vaccination or by having once had the disease in question, and again by the existence or absence of other diseases such as Scarlet fever, Rubeola and others. Distinct Small Pox unattended by any other symptoms, pain in the or-

sharpest stage lasting so almost always terminates favorably from the seventh to the twelfth day. The duration of the confluent Small Pox is incomparably longer when the disease does not terminate favorably in either of its two first stages. In the Eruption the successive or confluent Small Pox, the danger is much less important generally. In the Eruption, the pustules appear at once upon the face neck and trunk and extremities. The disease proceeds up of the most formidable to avoid the human race is subject, and death is frequently dangerous. The danger is thought to be ex-

treme when the pustules contain a transparent fluid instead of pus and also the appearance of immortage during the suppurating stage has been regarded as a disastrous symptom. These along with deeper lesions of the mucous membrane or of the viscera along with nervous symptoms and altered conditions of the blood are well known to be unfavorable. Before saying anything of the medicinal modes of treatment the prophylactic measures will be deemed proper to be first spoken of. For the reason viz: that if we employ vaccination early and do not have

any symptoms of Small Pox presenting themselves of course no further agencies are required, but if such be not the case then will the medicinal mode of treatment be of avail. in most all cases of Vaccination be employed in due time the disease will be prevented or at least the severity of the attack will be greatly diminished. The best mode of accomplishing this is to make five or six straight incisions into the arm and as many more directly across them making in all when done the space a bout the size of a dime. This being done take with a lancet, the lymph from the arm of one already performed upon for at the least seven

days, and ability it to be one to be vaccinated, if the lymphous is not to obtained. The dried crust must be soaked in a few drops of water until it get soft. Then apply in the same way. The time of life in which the primary vaccination should be performed is, between the second and third month of infancy; it is generally that the person should be enjoying good health, but still if there is a liability to exposure to Small Pox it should not be delayed on any account if there should be no success in the first operation it is advisable to do it again and indeed oftener. In a few days there may be a [illegible]

bility: afterwards a susceptibility. In making the scarifications it is all important to have but a drop or two of blood flow from them, fearing the virus may be washed away by this means. Ulcerations giving more or less trouble occassionally follow vaccination, arising from irritation of the pustules by friction of the clothing. They are to be treated in the same way as all ordinary sores. The medicinal modes of treatment are two. The General and the local. The general is about the same as that of the continued fevers. No special treatment is required. The disease will run its course in spite of

everything that can be done. Consequently the Expectant plan is the best. During the stage of invasion the intensity of the fever may be greatly diminished by cold drinks, such as ice water, lemonade, Carbonated water, and the sulphites. During the secondary fever the mineral acids are thought good. Alcoholic stimulants, wines, and nutriment should be governed by the same principles as in all essential fevers in which the danger is from Asthenia. These along with free ventilation constitute the general remedies. The local, extractive or abortive treatment consists in opening the vesicles, letting out the fluid

touching them with nitras argentic stick or a camels hair pencil charged with a solution of the nit. argentic of the strength of ½ to the ℥i of water. The application of mild mercurial ointments & poultices of linseed meal, of collodion, of gutta percha and of iodine while the eruption is popular comprise the principle means of preventing the characteristic marks of the horrible disease. Lastly with a view of preventing the diffusion patients should not be permitted to go abroad until the surface is completely freed from scab. all clothing worn during the disease

should be burnt up. This precaution taken along with the avoidance to exposure of Small Pox as soon as the existance in the community is known may probably be the means of causing to disappear the seeds of that dire disease, and the soil upon which they might chance to be cast would be made unfruitful of the deadly harvest.

AN

Inaugural Dissertation

ON

Simple Intermittent

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

[illegible]

Of

[illegible]

Session of [illegible]

Intermittent [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] movement accessory [illegible]

Upon [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The history of [illegible] wagon

[illegible]

[illegible]

The [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

and sometimes, [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The skin is [illegible]

[illegible]

[illegible]

[illegible]

red person. The [illegible]

[illegible]

[illegible]ed [illegible].

Pneumonia is occasionally a [illegible] disease, and in [illegible] cases [illegible] coma is sometimes observed. Although it is understood that the [illegible] upper room cold, even although the natural heat of the extremities is [illegible] healthy, yet the temperature of the [illegible] at [illegible] illuminate in one minute, or in [illegible] six hours. It [illegible]

But [illegible]

[illegible]

[illegible] indicate a temperature

of 104° or 108° F. The mine [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

a very different nature are.

The headache now disappears, the intensity of the fever is greatly diminished, the [illegible] becomes [illegible] and [illegible], the [illegible] [illegible] [illegible] [illegible] [illegible] its natural [illegible] and the patient often [illegible] [illegible] sleep. The skin becomes soft and moist, [illegible] [illegible] [illegible] [illegible]

[illegible]

[illegible] of [illegible] questions. This last [illegible] of [illegible] stage. It is the closing stage of [illegible] education [illegible]

[illegible]

[illegible] He is sometimes [illegible] [illegible] strange to say, are [illegible]

to give [illegible]

[illegible] gh

a [illegible] ;

a [illegible]

[illegible]

to indicate that [illegible]

a [illegible] depletive [illegible]

condition. Such [illegible]

[illegible] cases, unless the

[illegible] occasionally, find the [illegible] suffering [illegible] extreme [illegible]

alarming under the [illegible] of

raising and alarming.

"[illegible] receding is a [illegible]

[illegible]

of intermittent fever. But paroxysms are very often incomplete. [illegible]

[illegible]

[illegible]

[illegible]. This is [illegible]

[illegible]

[illegible]; the rigors are often wanting [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Such a condition is followed by [illegible]

[illegible] and the

[illegible]

but slightly modified, that is
popularly termed, a "dumb

Ca. Fever is very [illegible]
[illegible] — [illegible]
the [illegible]
in nature — and as [illegible]
of [illegible]
[illegible]
of [illegible] among
narcoparesis of this disease. Let
[illegible]
and in hydrotherapy
of [illegible]
[illegible]
[illegible]
[illegible]

[illegible]

We have seen at the outset that the [illegible] in a regular order of succession, above [illegible] with [illegible] [illegible] that when [illegible] to the commencement [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible] quotidian ague. When [illegible]

[illegible] the same hour or [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Some [illegible]

[illegible]

[illegible] Tried

[illegible] would

[illegible]

Besides [illegible]

[illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] of the [illegible]

been described, [illegible]

of the [illegible]

the [illegible]

[illegible]

[illegible]

[illegible] of great

clinical experience. [illegible]

[illegible]

[illegible]

[illegible]

The [illegible]

con [illegible]

[illegible]

[illegible]

[illegible]

[illegible] [illegible]

[illegible]

There is [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]

[illegible] *indications influency*

[illegible] *left-sided* [illegible]

[illegible]

[illegible] *Ex specific* [illegible]

[illegible]

[illegible]

fact that it [illegible]

[illegible] hilly districts, [illegible]

[illegible] as the hill [illegible]

[illegible] that its cause is [illegible]

[illegible] The Earth's [illegible]

[illegible] of unwalkable [illegible]

[illegible] to have ascertained [illegible]

fever is caused by the [illegible]

the system of the [illegible]

[illegible]

the subsequent observations

The characteristics of the

general, so

others

diagnosis

The prognosis

tent fever is always favorable.

a form of the disease,

[illegible] by other pernicious which is [illegible]

Its description and treatment, for [illegible]

this case.

Treatment. In treating a case [illegible]

must first [illegible]

When it is [illegible]

[illegible] its continuance.

[illegible]

in flannels, and have received [illegible]

[illegible] of hot water applied to [illegible]

When [illegible] of pain in the [illegible]

a [illegible], a [illegible] of [illegible] [illegible]-

[illegible] of one of the salts of morphia, [illegible]

[illegible] a most beneficial i[illegible].

[illegible] [illegible] [illegible] [illegible]

has [illegible] [illegible]

[illegible] in the [illegible] of its attack.

2nd [illegible]

[illegible] sufficient to

[illegible] — [illegible]

[illegible]

say. The cold stage [illegible]

[illegible]

[illegible] annoyance usually

[illegible] during the hot and sweating [illegible].

[illegible], the severity of the succeeding [illegible]

is said to be greatly diminished by its
[illegible] and with good effect. During the
hot stage, if the [illegible] that
[illegible] the effusion [illegible]
be freely administered. If there is any
great heat of skin, the [illegible]
be sponged with [illegible] and water
[illegible]
[illegible]
[illegible] to check surface action.

But the most important effect to
be effected in the treatment of inter-
mittent fever, is the [illegible]

[illegible]

[illegible] establishment of [illegible]

[illegible] transmission are direct.

The medium which [illegible] [illegible]

[illegible] for [illegible] [illegible] almost

[illegible] but [illegible]

[illegible] climate [illegible]

as the climate back [illegible] [illegible]

[illegible]. In the State of [illegible]

the [illegible] [illegible] of [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

can be properly so called — [illegible]

of this disease. There has [illegible]

Oth

[illegible] [illegible]

intermittent [illegible]

[illegible] from

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] appetite.

The [illegible]

as effectual as Quinine when

[illegible]

[illegible] to

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

an effective agent [illegible]

[illegible] cleanse. [illegible]

[illegible] the periodic virtues in a high

[illegible]

[illegible]

[illegible]

[illegible]

An
Inaugural Dissertation
On
Pneumonia

Submitted to the examination
of the Faculty of the University
of Maryland
For the Degree
of Doctor of
Medicine
By

S. Henry Hamilton
of Maryland

To

Prof. Richard [illegible]

of the University of Maryland

the following pages are

with sentiments of the highest

regard for his talents

Respectfully

dedicated as a small tribute

of gratitude and esteem

by

His sincere friend

J. H. Hamilton

Esteemed Sir

I embrace this opportunity, the only one that I possess to return my sincere heartfelt thanks for your untiring endeavors to impart to me that knowledge which will enable me to hold a respectable place among the honorable body of physicians.

For the kindness & consideration which you ever manifested towards me, you have my deepest gratitude. While a student in your office, you have won & guided me by your advice & counsel, and smoothed the difficulties that lay in my path in

the fortunes of a Kindred spirit
by unwearied Kindness.
And I shall ever regard the time
I spent in your office as one of the
happiest periods of my life, since
it has enabled me to call you
friend.
Would I could say more but
I can not find language adequate
to express all that I feel, but
as "Actions speak louder than words"
to show my appreciation I take
upon myself the high honor of
dedicating this my little
work to you.

[illegible] an inflammation which affects the lung tissue itself, which consists [illegible] and lymphatic [illegible]

[illegible] and such distinction [illegible]

[illegible] will be shown in the [illegible]

[illegible] such a very distinct [illegible]

depression with regard. The [illegible]

[illegible]

[illegible]

[illegible]

[illegible] usually follows the circle which is acute lancinating, and in most cases resembles even [illegible] the [illegible] [illegible]; in fact also [illegible] developed as a [illegible]

[illegible]

[illegible]

[illegible]

[illegible] though as usual [illegible]

[illegible]

[illegible]

[illegible]

[illegible] followed [illegible]

Which is in a great pain

By letter
of Silver, a
Vienna, &c

the visible

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

That under. [illegible]

[illegible]

circumstance,

AN

Inaugural Dissertation

ON

Opium

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

W. L. McMillan

Of

Wilmington, North Carolina

Session of 1868 & 9.

Opium.

Opium is the concreted juice of the unripe capsules of Papaver-somniferum, and one of the oldest and most valued agents in the Medical Armament.

The varieties of opium are many, taking the name of the points from which they are exported, that from Turkey, and Egypt is oftenest used with in commerce, of these, the Smyrna — a species of Turkey opi — is the best, containing a greater percent of Morphia than any other varieties it is com-

posed of Morphia about seven Per cent,
Codeia one, Narcotin one to ten, Narcein
six to seven, Meconin, Meconic Acid, and
other properties including about twenty
Per centum of mucilage; Owing to
the difficulty of procuring labor
Opium is cultivated on small farms,
the Raspiteers never planting more
than can be managed by their own
families and reliable assistance.
The Crops are planted at different times
in the same season, first, to prevent
a failure of the whole crop if unfa-

vorable circumstances should inspire the very sensitive poppy during the collecting season, who do scanning labour by bringing the crops to maturity at different times; the poppy is generally planted in moist and very rich soil, observing the months of November December and February, being ready for the extraction of opium about May or July when an incision is made with a knife half round or across the poppy-head in the afternoon from which the milk or juice oozes during the night

covering the poppy-head by morning, when it is scraped off and accumulated in masses containing from two ounces to two pounds, scraped in the hours of the poppy and placed in a shade for a short time to dry, then packed in bags or baskets and sent to market where it is inspected, separated and shipped. In the fresh state opium is soft and tenacious, hardens by exposure to air and becomes brittle with age, breaking with a shining fracture upon which can be seen the gran-

also boiling leaves which compose the mass, it has a very peculiar odour and bitter taste, yields its virtues to alcohol, acids and partially to water imparting to them a dark colour, it is incompatible with the alkalies and with tannic and gallic acids, is inflammable, swelling into a spongy mass when burned. The effects of opium are uncertain and are modified by age, constitution, habit, idiosyncrasy and the peculiar circumstances of disease, it affects children much more readily

than adults, and those unaccustomed to it, quicker and greater than those habituated to its use, pain counteracts the effects of this drug to a great extent. A striking illustration of the two latter - habit and pain - conditions is reported by Dr Chapman, "in a case of Cancer of the uterus in which the quantity of Laudanum taken, was gradually increased to three pints besides a considerable quantity of solid opium", in twenty four hours - death has been caused in infants at the breast

by a single dose of opium taken in the mother. Hence we should always be very cautious in its administration, beginning with small quantities especially with those not accustomed to it. Taken in small quantities it has a stimulant effect followed by a slight inclination to sleep, without depression nausea or languor. In larger doses the stimulant effects are greater, there is a fullness about the head with increase of temperature, buzzing in the ears, flushed face, contracted pupils, loss of

appetite, mouth becomes dry, skin hot, thirst intense and pulse full and frequent. The head may feel light, flashes appearing before the eyes and the ideas becoming confused and extravagant, nausea & vomiting are not unfrequent and occasionally delirium is produced, this stage is soon followed by depression, with a pulse below the normal standard, an insatiable desire for sleep, which sleep is filled with dreams from which the patient may start but fall back

into a pleasant as may be frightfull dreaming slumber, the sensative organs are blunted, the skin becomes damp and pale, the muscular system relaxed, sometimes spasmodically contracting. These effects are generally succeeded by constipation, nausea and head-ache;

In paroxysms closer the first symptoms are giddiness and stupor, slow and feble respiration occasional, becoming stertorous, contracted pupils, the muscles become relaxed, the pulse slow becoming smaller and more

peable until it ceases in death.

There is no chemical antidote for poisoning by opium, if the patient be seen soon after taking a poisonous dose, the stomach should be promptly emptied by emetics or the stomach pump should not be allowed to sleep but be made by walking. Cold water poured on the head &c if completely narcotic has taken place artificial respiration must be resorted to, Marshall Hall's method may be adopted or the poles of an electric machine may be so placed

as to send a current through the diaphragm thus causing its contraction precisely to the purpose does good. Coffee is recommended, stimulants do good and Belladonna, by producing a different effect on the system in a great degree counteracts the effects of opium. Of the Modus Operandi of opium, little is known, it is absorbed into the system as it can be detected in the milk, even minute of three to volume it is administered and its constitutional effects are

greater and much quicker when it is thrown direct into the system by means of the hypodermic syringe than when taken into the alimentary canal. Its primary and essential action is on the brain and spinal-cord, producing sleep and insensibility. Dr Banfield Jones thinks it produces sleep by contracting the blood vessels of the brain, thus producing the same condition of the circulation to that part as in natural sleep. The influence of Opium on the heart and arteries

is great but not at all uniform,
in some cases it increases and in
other it depresses the pulse; like on
the cerebro-spinal system small
doses increase this action and lar-
ger ones depress; the increasing power
of the drug is thought to be due
to relaxation of the blood vessels
or rather of the muscular fibres of
the heart, perhaps the muscles
of respiration are also acted upon,
which may account for the fulle-
ness of inspiration which causes

so much trouble in poisoning by opium; it checks the mucous secretion of the air passages and diminishes their sensibility in common with other parts of the body; the secretions of the whole alimentary canal are more or less checked by it, causing dryness of the mouth and throat with intense thirst, diminution of hunger and dry stools; it imposes digestion as has been proven by post mortem examinations, in which food has been found undigested in the stomach

after remaining there for several hours, the subject, the time being under the effects of opium.

Constipation generally follows its use but diarrhea is sometimes caused by the habitual employment of it.

There are many opinions in regard to its action on the urinary apparatus we know that it appears diminishes them, increases the flow of urine, and as the skin and kidneys are two great emunctories - after the bowels - acting alternately, retention being one

active bowels, are not generally
habitually stimulated by the same drug,
opium acting as a diaphoretic we
would think it diminishes the secretion
of urin. Trousseau and Pidoux who
have studied carefully the effects of
opium on these organs, think that
it has to be used for two days
before any effect is perceptible
and then there is a diminution
in the secretion. This statement
has been confirmed by one from
Spencer who thinks the urin is

secreted but the bladder fails to discharge it as she has found that opium administered in doses to which opium had been freely administered. Its diaphoretic action is sometimes followed by itching & eruptions as occasionally produced by it, resembling measles. These effects are more frequent in females. Can anodyne opium stands first as some failing to relieve pain and promote sleep by relieving pain it removes a cause of inflammation which

would alone recommend it in the treatment of inflammatory disease in which it was for a long time thought injurious! In peritonitis, puerperal fever, inflammations of the walls of the pelvis of the kidneys, of the ureters, the gall ducts and in diarrhea, dysentery and inflammations of the mucous membrane its value is indisputable! In the treatment of fevers when delirium, tremor, great restlessness, wakefulness or subsultus-tendinum are prominent

it is valuable and is used with benefit in local spasms, or spasmodic contractions of the rectum the bladder or uterus. Opium and its preparations — all of which act alike, some agreeing with idiosyncrasies when others will not and different ones, being more conveniently administered according to circumstances, — can be given by the mouth, the rectum or the skin usually, it is given by the

mouth which is the most convenient and reliable mode:

In the crude state it is best given in pill form and to promote the solution of the pills by the gastric juice they should be made of powdered opium; where a prompt action is desired it should be administered by means of the hypodermic syringe in one of its preparations, by this means the quantity used should be much

less than by the mouth, as it acts much more readily, being thrown direct into the circulation; By the rectum it can be given in enema or suppositories, twice or thrice the quantity being required to act, or produce the effect, as if taken by the mouth.

To produce the slightest effects one fourth or a half grain can be given and from a half to five grains may be taken as an Anodyne or palliative remedy

to be regulated by the circumstances of disease, age, idiosyncrasy &c. — as we before mentioned, the effects of this drug is very uncertain and we cannot be too careful in giving it. Therefore it is always best to begin with as small quantities as the peculiarities of the case will permit and gradually increase it until the desired effect is accomplished.—

An

Inaugural Dissertation

on the

Effects of Alcohol on the System.

Submitted

to the

Faculty of Physic

of the

University of Maryland.

for the

Degree of Doctor of Medicine.

by

L. H. Spalding of Kentucky.

Introduction.

When in obedience to duty a man enters on a tedious task, which is to cost him much labor & bring little profit in return, he is excusable for being brief & expending as little time as possible on it. The useless toil & loss of time incident to writing a Thesis, might, in some degree, be repaid, if, after the bodily & mental exertions requisite for the accomplishment of this devoir, the student could be favored with an examination of his production, - but considering, in a general way the quantity & quality of such productions, it could hardly be expected of any man to make a careful perusal of them. If perchance some curious eye should happen to wander over these pages, we hope at least the merit of brevity may be attributed to our work & the credit of having bestowed but little time on a futile job assigned to us. A wide field for study is laid open before us, but on

have declined to undertake the task for to what purpose would a labored dissertation on the subject here selected be, when, in all probability, its contents may never be perused by mortal man. This paper will lie unseen, unread in the old press room of the University of Maryland until the lapse of time has enveloped them in a mantle of dust & dirt, & perchance some curious student may pick them up, shake off the dust of years, & glance over the indistinct lines long after their poor author has passed into the grave. Or, perhaps they may remain there unmolested unheard of until the onward march of Time, forgetting nothing in her progress through ages, has swept them with all else that is mortal into the mighty gulph of the past, where is buried the wealth the beauty & the intellect of the centuries that have gone before us. The subject of this treatise is one of vast importance

to us, not only as physicians but as citizens of a great & powerful nation; for it is our duty to aid to stem the current that is sweeping like a torrent over the land. Not only are the moral & hygienic conditions of the community at large brought in jeopardy, but a rapid deterioration of the intellectual & social capacities of the people is threatened, & unless the tide of drunkenness can at least be brought to a stand-still, we will inevitably fall from the high pinnacle of fame & civilization, whereon we have so long maintained our position with the foremost nations of the globe. Intemperance within itself, is a great evil & it is the mother of many a vice which degrades the soul & brings man down to a level with the beasts of the field. The course of the drunkard is continually downward & always ends with rare exceptions, in ruin & a premature grave. If the end were here, he might go on in his mad career,

thinking to conceal his shame like the sorrow he has caused, in the hidden obscurity of the grave, – but there is a hereafter which is truly appalling; the mystic curtain is removed from before his eyes, & he sees eternity as it is; – but there we cannot follow, we leave him in the hands of his Creator, who will render to every man the fruits of his labors. But here also there is a future to the memory of the drunkard. History transmits his name to posterity & his biography is easily written. The four words 'he was a drunkard' tell his whole life, & men ask no other questions about him, but hold in lasting execration the memory of him who did nothing for the good of his fellow being but contributed his mighty weight to the degradation of his race. Every man of worth ought to exert his influence towards the eradication of this vice, – to do his utmost to stay the onward march of the demon

enemy, which is spreading ruin & desolation over the land. The medical man has his special duties to perform, & he can exert a peculiar influence, not only by pointing out the evil effects of intemperance, but he can also accomplish a vast deal by being circumspect & prudent in the administration of alcohol as a medicine. How many a drunken man have not physicians inadvertently made simply by the indiscriminate way in which they make use of alcoholic stimulants! How many a hope has been destroyed, how many a heart made wretched, how many a home desolate by the inadvertent administration of a "bottle of bitters"! — But our introduction is becoming too long; it is our intention to show the baneful influence of alcoholic stimulation on the physical economy; as a medical writer, we have nothing to do with the moral deformity resulting therefrom.

Alcohol as a Disease Producing Agent.

As a disease producing agent Alcohol is certainly one of the most fruitful of all agencies brought to bear on the physical organization. Producing various effects on the constituents of the blood & being eliminated in various ways, if it be an irritant at all, it may of course be the cause of many diseases. The truth of its irritability is easily established, for if it be applied to a vascular surface as that of the skin, heat, redness & pain are the direct effects; & if the application be continued any length of time, or if the Alcohol be in a high state of concentration, inflammation may result therefrom. The scope of its action then, when it has gained access to the blood — & Alcohol has been found in a pure state in the blood — is very great, & it must necessarily be the direct cause of many of

the inflammatory diseases of the various organs & tissues of the body. Like all substances foreign to the blood. when taken in excess it is eliminated by the various channels, viz. by the Kidneys, skin, liver, lungs & intestines, & diseases of any or all these parts may follow from its constant use. If we accept the doctrine of most physiologists in regard to the production of Animal heat, - & it now seems to be regarded as an established fact in physiology, - Alcohol is largely consumed in the heat making process. - In pursuing the plan marked out, we will first notice the immediate effects Alcohol has upon the tissues of the body & then pass on to the diseases which it is directly or indirectly concerned in producing. When Alcohol is taken into the stomach it produces corrugations of the walls of that organ & owing to its great affinity for water a coagulation

of the albumen which is contained in the chemical organization of all the soft animal structures, — a fact which shows the capacity of this substance to preserve anatomical & surgical specimens. In this manner the chemical structure of the tissues is somewhat changed, Alcohol being substituted for the fluids of the parts. On the other hand when it has entered the blood, it tends to destroy the solidifiability of the ~~of the~~ fibrin, & thus renders it unfit for the nourishment of the various tissues of the body. It also produces a shrinking of the red corpuscles of the blood, & in this way impairs the oxygenating process & renders the blood in the arteries similar in aspect to that in the veins. Alcohol appears to have a peculiar affinity for the substance of the brain, a fact which is easily recognised by the intellectual capacities being affected before any other effect of its action is perceived. This explains

the many mental & nervous disorders the habitual use of Alcoholic liquors gives rise to. Its affinity for the substances of the Spinal Cord however is said to be very feeble, a fact which prevents it from being the cause of some of the nervous disorders which are not more frequently found in drunkards than than in temperate men. The affinity of Alcohol for nervous matter is so great that the quantity in nervous substance is found to exceed by far that in an equivalent quantity of blood. The brain of a person, who has died from the immediate effects of Alcohol is firm & compact, just as it would be if steeped in that liquor for several hours. Passing over the immediate effects of Alcoholic liquors on the General System, we will now examine the diseases which it has an agency in producing, beginning with those of the nervous system. The first of these that engages our attention & one of very great importance is Delirium Tremens. This disease results from a continual

overexcitement of nervous power, but on what precise condition of the system it depends is a mooted question; some contending that the sudden denial of spirits to the habitual drinker is the important condition of the disease, while others maintain that an abnegation is wholly unnecessary to its development. The probability is that it is caused by a condition of the nervous system arising from complete exhaustion of nervous power, which exhaustion results from a continued & prolonged overexcitement of this power. If this be the true solution of the question, whether a sudden denial of spirits be made or not the result is the same; though it is very likely that a withdrawal or diminution may hasten the onset of the disease. Alcohol is somewhat like Opium in its action, the system becomes habituated to its stimulation, & the quantity must be continually increased to keep up the excited nervous influence. But a point is finally reached when nervous matter cannot take on a further degree of excitement & then it begins to wane, & from this moment the individual is susceptible of

Delirium Tremens whether he continue his potations or omit them.

Insanity. If Alcohol can produce such a disease as the above, there is no wonder to be felt at its being one of the most frequent causes of Insanity. It may act in conjunction with some mental cause, however, for many persons look upon the intoxicating cup as a friend & solace in affliction, & resort to it to drown their sorrows therein. No one can doubt that the capacities of the brain are weakened by the defective nutrition caused by habitual intemperance. Now Insanity may be produced by some exciting cause after the brain has become predisposed, so to speak, to this disease from the habitual use of the nefarious drug, but it is undoubtedly the remote cause of the disease. Alcohol may also act as an exciting cause itself when predisposition renders the mind capable of taking on Insanity as in cases of hereditary predisposition to this disease. A person then, whose ancestors have become insane from any cause whatever, ought to beware of intoxicating liquors.

Delirium Ebriosum is next in order & claims a limited notice. This is the result of a single paroxysm of drunkenness the after effects of the stimulation, after the state of intoxication has passed away; it is therefore the immediate effects of this stimulus on the brain. The chief pathological character of this disease is active congestion of the brain, the symptoms arising from which are, severe pain in the head, irritability of the temper, flushed face, quick, hard pulse, & a constant desire for intoxicating spirits accompanied by mental suffering. This disease is of short duration & quickly ends in recovery.

Dipsomania. The inordinate desire for Alcoholic liquors, & the incompetency of the sufferer to restrain himself in the use of them, is termed Dipsomania. This may be regarded as a disorder of both body & mind. It is said to result from a predisposed morbid condition of the system, but the most frequent cause undoubtedly is intemperance. It is little doubted if a person has ever felt this morbid craving for Alcoholic stimulation

without having at some previous period revelled in the "pleasures of Bacchus." Though other causes are greatly as guilty frequent. This disease appears in three forms, the acute, periodic & chronic, the acute being one of the rarest of medical curiosities. The periodic is more frequently seen, & is found principally in men, who, previous to a reformation, have been intemperate; & it sometimes shows itself when the individual sees or smells or tastes ardent spirits. In these a cure is easily effected if the person keeps entirely away from intoxicating drinks, otherwise he cannot resist. The chronic form of the disease is very frequently met with, since the causes are continually occurring & the means of cure seldom resorted to. The only possible chance of cure is to confine the patient in an Asylum or prison where he cannot obtain what he would give his life to possess. Some individuals, aware that of their own accord they could do nothing, have voluntarily given themselves up to be imprisoned & restrained in order to controle their inordinate desire

for drink. When a person has lost all control over his will when he has become a slave to a nefarious propensity, his actions ought to be restrained by law, which would be beneficial to himself & relieve his friends & relations from a perplexing embarrassment. A person afflicted with this disease, dissipating his property to no purpose caring for naught else than the gratification of his irresistible propensity & frequently being dangerous to himself & his fellow-man is a nuisance to himself & the rest of mankind. He can then have no claim on the liberty which he so abuses & prevails in justice to the public safety. He ought to be deprived of it & shut up in an Asylum where he must reform, & for the time being at least, prove useful to himself. It is stated however that complete cures from confinement are rare & that persons coming relapse into their old habits after being released. If not infatuated with, the patient is carried irresistably on in his wayward course until death overtakes him or he becomes an imbecile & ends

his days in a Lunatic Asylum. "O tempora, O mores!"

Apoplexy. Alcohol in producing Apoplexy does not act generally as the direct cause of this disease but by producing an afflux of blood to the brain. it renders a person so susceptible of the disease that a slight exciting cause may produce it. Thus this affection has frequently been caused by a blow on the head or a bruise from a fall, ect. while the person was intoxicated. The same condition of the brain also renders a person more capable of admitting attacks of Paralysis & Epilepsy, should the exciting cause be brought to bear on him. When these diseases have been already superinduced, a paroxysm may frequently be brought on by excesses in eating or drinking. Alcohol may also be instrumental in producing Meningitis, Cerebritis, Neuralgia & other diseases which space will not admit of detailing or describing. It is proper that a few remarks should be made here on the Mental Debility in the Offspring of the intemperate man. It is one of the indispensable laws of Nature that the bodily or mental qualities, whether sound or diseased

are, to a certain extent transmissible to the offspring. The bodily infirmities thus transmitted from parent to child are known as the various cachexia. The offspring of an habitual drunkard is rarely ever healthy both in body & mind; & if there be no apparent disorder, the predisposing conditions of insanity or intemperance are sure to lie dormant in his system. The offspring of the intemperate man or woman, however, is most generally idiotic, especially if the act of procreation have been committed while one or both of the parents were in a state of intoxication. Plutarch has said in the days of antiquity "One drunkard begets another;" & the experience of succeeding ages has verified the assertion. We sometimes see the several individuals of a family become intemperate without having inherited such a disposition from their parents. The writer is acquainted with a respectable family of his native state consisting of three sisters & a brother the conversation of whom as far as can be ascertained were superior in sense & they then-

selves practised total abstinence. The sisters & brother were all married, & all had children, amounting in the aggregate to eleven sons, without enumerating the daughters. Of these eight became habitual tipplers, one has hardly arrived at the age when the others became intemperate, & two are only deterred from the same fate by the exceeding disgust & mortification caused by the sinful deportment of their relatives. This inordinate love for ardent spirits could not have contaminated the different members of this family through association for the various branches lived in separate sections of the country & very seldom interchanged visits. We can find no other way of accounting for this peculiarity of constitution, where the individual has apparently an innate love for intoxicating drink, than to term it an idiosyncrasy in the condition of the system. We will now examine hurriedly the diseases of the digestive organs which Alcohol has an agency in producing. The first of these is Gastritis. Considering the irritant action of this fluid on living

animal tissue, it would appear strange if its habitual use did not sometimes produce gastritis; as brandy, whiskey, gin &c. are frequently taken undiluted into the stomach. Owing to the means Nature has given the stomach to protect itself against the action of irritants injected into it, it is very hard to excite this organ to inflammation, unless the irritants be corrosive or very severe. When the irritating liquid is taken into the stomach, the gastric juice is poured out, & the offending substance is thus kept away from its walls until it has become thoroughly diluted. But the stomach cannot keep up this action incessantly & the consequence is that inflammation of the mucous lining of the stomach is a frequent result of the constant use of Alcoholic liquors. The Inflammatory gastric dyspepsia of some authors is probably an aggravated chronic form of the above disease found frequently among those who indulge continually in alcoholic potations. The symptoms are the same as those of chronic gastritis, & the pathological elements likely differ in no respect from those of the dis-
ease.

Enteritis, & disorders affecting the intestinal canal, are indirect effects of Alcohol, probably due to the defective nutrition of the parts. These diseases, however, are sufficiently often found among intemperate men to justify us in supposing that Alcohol must have a considerable influence in producing them.

Cirrhosis & Acute Hepatitis. When Alcohol is absorbed into the capillaries of the venous system of the stomach it is carried by the portal circulation immediately to the Liver. Hence it must necessarily subject this organ to the same evil influence to which the stomach is exposed; & the Liver is even a more common seat of disorder. All the inflammatory diseases of the liver are found more commonly among intemperate men than any other class. Besides the direct contact of Alcohol with the Liver this organ assists the lungs in removing the hydro-carbonaceous substances, the amount of which is largely increased in spirit drinkers. The Liver then has to perform the double office of eliminating from the blood a part of the Alcohol & the acids

of that liquid after it has been burned in the heat making process. The diseases that arise from the combined action of these two agents are chiefly Hepatitis & Cirrhosis. One of the pseudonyms ~~of~~ of Cirrhosis, "Gin liver," is given for the reason that this disease is almost peculiar to the habitually intemperate, few others being afflicted with it. The irritation of the secretion of the Liver caused by Alcohol must of course prove an additional source of disorders in the intestinal canal.

Nephritis. The Kidneys next claim our attention. Alcohol is termed a diuretic & must act as all other diuretics by determining a larger flow of blood to the Kidneys. Now all diuretics causing an abnormal determination of blood to the kidneys, are injurious when used constantly without intermitting for the purpose of giving rest to the organ; & obviously must this be the case if in addition the diuretic be an irritant. Alcohol, then, is a most fruitful cause of that condition of the Kidney commonly known as "Bright's Disease," & statistics

abundantly show that at least three-fourths of the cases afflicted with this disease are persons of intemperate habits. Now to say that the exposure of the drunkard to other causes, such as lying on the cold ground, is the reason why so many of this class are afflicted with this disease, is but a lame excuse to exculpate Alcohol from the role it plays in the production of this disorder; for, the temperate soldier who is more exposed to the same causes, is comparatively seldom attacked by the disease. We will therefore refer it to the cause already adduced. There are other diseases dependant on a defective nutrition, that may be referred to Alcohol, but space forbids us to mention them here. It has already been shown why Alcohol is injurious to the healthy action of the nutritive processes & the fact is too evident to need further explanation. The emaciation constantly seen in habitual drunkards is a proof of it. Then again, it is well known that a wound or bruise of any kind, will be slower & less healthy in healing

in an intemperate than in a sober man. For this reason surgeons will rarely ever feel justifiable in undertaking an operation, if the person have been addicted to drinking, unless necessitated to do so. When the phagedenic ulcer commonly formed on the legs of drunkards, is another sure indication that the nutritive & reparative powers are weak, for these ulcers will scarcely ever heal unless the patient abstains from strong drink. All the diseases herein enumerated, & others besides, the legitimate offspring of Alcohol, conspiring against the life of man, must inevitably tend to shorten it, & that such is the case no sane person can doubt or deny. It is a common opinion that Alcohol taken in moderate quantities will aid the system in keeping off those morbific agencies which tend to produce chronic & contagious diseases, in other words that it acts as a prophylactic. Now there can be no doubt that this medicine will produce a temporary exaltation of power & excitement of the circulation & thus render the system less obnoxious to morbific agencies.

but if its use be continued through a considerable length of time, it ceases, in some degree, to have this effect, & is instrumental indeed in dispersing the resisting forces, so that it would be imprudent to rely on it when the system is to be supported for some length of time.

Our task is ended without being completed, but we trust we have said enough to satisfy the requirements of the occasion, & with this we take leave – not of our readers – but of the Professors of the University of Maryland for all of whom the writer entertains the highest opinion.

Baltimore December 30th 1865.

AN

Inaugural Dissertation

ON

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Of

Session of

Whilst it is the privilege of age to speak with authority, & offer to the listener the ripened fruits of wisdom & experience, the young can only speculate on life & manners, & questions & subjects of practical importance, & even then their reasoning is apt to be regarded as romantic, & their conclusions as the day dreams of poetic visionaries.

As I myself am as yet very young, it cannot be expected that I will advance original views & ideas on anything about which, reading & hearing, with but few opportunities of observation, have been my chief sources of information.

Were I not bound down to a medical thesis, I might choose some subject,

in the treatment of which I could display some originality, but as it is I must imitate & follow out the views of others.

Though in literature imitation is the danger, & becomes the bane of aspiring individuals, in medicine we do not recognize this to be the case; for it is only by following out the theories & practice laid down by our predecessors that we arrive at new theories & new conclusions.

I need not then be ashamed to admit a deficiency, which time & practice only can remedy; I will therefore gen to advance the latest & most approved theories on the subject of Albuminuria.

This disease is the result of an altered state of nutrition, & shows either defective

structure in the kidneys, or disturbed circulation, allowing transudation of serum from the bloodvessels into the tubuli uriniferi. It may be due either to congestion, or change in the arteries or loss by the tubes of epithelial lining.

This serum or lymph sanguinis contains fibrin as well as albumen. When transuded into the tubes, it is moulded by them & forms the tube casts, which contain fibrin, epithelial cells, blood disks, pus & bacteria, &c.

Albuminuria is divided into three distinct varieties; 1st Tubular Nephritis, i.e. inflammation of the membrane lining the tubuli uriniferi; 2d Granular Degeneration, an affection of the intertubular subst.; 3d Degenerative infiltration, or amyloid degeneration.

Tubular Nephritis.

is a disease most common under ten years of age, but may occur at any time under thirty. In adults men males the females are affected; in children the proportion is about equal.

Causes. 1st Those which impose extra work on the kidneys, as cold, obstruction to the bile, loss of one kidney, &c. 2d Diseases which develope a renal irritant, as scarlatina, measles, diphtheria, pyaemia, typhus, &c. 3d Direct renal irritants, as turpentine, cantharides, &c.

Cold is the most frequent cause in adults; scarlatina in children; in fact an attack of scarlatina, without albuminuria at some stage, is rare.

When the disease is the result of cold, the cells are apt to undergo fatty degeneration: when it is from scarlatina this is not the case: but this fatty change is in itself no proof of renal disease, though often associated with it.

Symptoms. Oedema; urine dark and scanty, pain in the loins, pulse hard & full, skin hot & dry; face flushed, nausea with perhaps vomiting. If the urine continues scanty long, the patient will most likely die of uraemia; this is the great danger in adults; inflammation of the respiratory organs in children.

In the chronic stage the fever is slight & anaemia prominent. As to the dropsy, ascites is first, then hydrothorax, then hy-

dropsy or pericardium. Vomiting may occur at any stage of the disease, it is often uncontrollable; diarrhoea is rare & not serious. Uraemia sometimes gives rise to coma in the acute, convulsions in the chronic form.

Urine has a sediment of renal epithelium, pus globules, epithelial casts especially in the early stage of the disease; granular casts in the advanced stages, & sometimes transparent fibrinous casts. It is impossible to know to the seat of the disease by the tube casts as one form may complicate another. The average specific gravity is 1019. but it is less than this when the urine is abundant, greater when very scanty.

Albumen is invariably present in large quantities in this, than in any other disease. Its increase or decrease is a proof of the severity or diminution of the disease.

<u>Treatment</u>. Nephritis is very much under the influence of treatment, especially catarrhal inflammation of the kidneys. Even without treatment there is reason to suppose that a majority of the cases would recover.

Bright made use of depletory measures, as bleeding, purging, diaphoretics & diuretics. Christison; bleeding & blistering loins. Todd; = purgatives, sudorifics excluding opium, as it arrests the urine, & diuretics with the exclusion of squills & cantharides, as they tend to increase renal irritation.

Johnson made use of external warmth, diluents, hot air baths, saline purgatives, antimonials, &c.

Bence Jones' treatment was nearly the same as Johnson's in the early stages, but in the latter stages he used hot air baths, Iod. of Potass., purging, iron, diuretics, &c.

Dickenson reprobates general depletion, especially as the kidney depletes itself.

But in acute cases & plethoric subjects, when the disease results from cold, & the urine is very scanty, cupping from the loins may be used. Hydrogogue purgatives & vapor baths tend little to remove the pernicious elements of the urine; whilst they carry off the water, and tend to wash out the tubes, from the bleeding of of

which all the mischief results. Avoid drugs that increase the renal irritation. Water is the best diuretic; a nutritious liquid diet, with plenty of fresh water will often cure the desease, especially in children, without other treatment.

Digitalis. In grown persons, in some cases use digitalis. Of all drugs this is the one of greatest value in Nephritis. If the dropsy be excessive & the urine scanty, it will gradually diminish the former & increase the latter; the Infusion is the best way of giving it; dose from ℥ss to ℥ss, two or three times a day, but in very very severe cases every three or four hours. Oj to lix of the purest water may be given in twenty four hours.

Iron: When acute stage changes into the chronic, give Tinct. Ferri chlor., gradually diminishing the digitalis. Afterwards we may use Potass. Acet. in combination with Ferri Acet.; or Potass. Bitart. with Ferri Tin.

When the dropsy has gone, discontinue diuretics, & use Iron with Quinia; as Ferri et Quiniae Citras.

When danger arises from dropsy in the pleura or elsewhere, a brisk purge of Elaterium or Sulv. Jalap Co. may be used; but only when other means have been tried & failed. Dickinson does not recommend Paracentesis; & says that puncture should be made with a needle, not lancet. He also strongly reprobates the use of antimony in Nephritis.

When convulsions occur it is not advisable to at once resort to bleeding & blisters, for they frequently pass off without treatment. If not, alcoholic stimulants with small doses of Opiates & inhalation of Chloroform will relieve the urgency of the symptoms. Great care must be taken in the use of opiates & the patient's pupil must be watched. Chloroform, alone, with proper care, will undoubtedly control the convulsions; and a sufficient dose of Elaterium, Tinct. Colch. ℥ss, or Ol. Tiglii, may be given to loosen the bowels. Complicating inflammations may be treated side by side with the Nephritis

The second form of albuminuria is Granular Degeneration of the kidneys. This is a disease of the interlobular structure, is more dangerous to males than females, & generally occurs between 40 & 60 years of age; it is a disease of old age & essentially chronic.

It is closely analogous to cirrhosis of the liver, & is due to a morbid increase of the interlobular fibrous tissue which contracts, & leaves little projections on the surface of the kidney, which give it a nodulated appearance. The first change is the uneven appearance, & adherence of the capsule to the ~~capsule~~ kidney, & as the disease advances the latter becomes smaller & smaller. The disease is insidious in its

approach & progress, & obscure as to its cause.

The Causes, to which it has been most clearly traced, are 1st Venous congestion of the kidney, from valvular disease, or pregnancy; 2d Lead Poisoning; 3d General fibroid degeneration. Granular kidneys have been found in more than one third of the cases of Valvular disease of the Heart. 4th Pressure upon Vena Cava, or Renal Vein.

Symptms. It is impossible to recognize the disorder until it has reached what is really an advanced stage; & even then the symptoms are liable to be attributed to other organs. They are dyspepsia, vomiting, general debility, depression of spirits, dimness of vision, headaches, slight & transient oedema, or general dropsy.

One or more of these is associated with an unhealthy look, sharpened features, anæmia, & a whitish brown or sunburnt tinge of countenance. Very likely there may have been dark urine on one or more occasions.

Perhaps the earliest symptom which leads to a suspicion of the disease is great increase of urine, which is passed very often especially at night, it is pale and of low specific gravity. In the early stage it may be altogether free from albumen or have merely a slight trace of it casts are often found before albumen. Occasional vomiting, headache, epigastric pain, anorexia, &c. are apt to occur as the disease advances; but diar-

hoea & lumbar pain are very rare.

Dropsy is not so common as in Tubular Nephritis, but more so than in Suppurative Infiltration, & marks an advanced stage of the disease, when the urine has become scanty. As long as this remains abundant, no dropsy occurs, & patients often die without a sign of it.

Consequences. Hypertrophy of the left ventricle occurs in half the cases: atheroma of the arteries in the other half.

Complications. Bronchitis occurs in about one third of the cases: pneumonia is most in frequency, whilst the other inflammations are rare. Epistaxis occurs often, & is sometimes profuse, but it is rare in the other forms. Atheroma

Derangement of vision, & changes in the retina, which are also rare in the other forms, occur in this. Apoplexy is very often a consequence of this disease.

Uraemia is common; in Nephritis the tendency is to convulsions; in Gran. Degeneration to Coma. This begins by vomiting after meals, headache, giddiness, stupidity, &c. There is a quiet stupor, with calm pulse, dilated pupil, cool skin & generally quick hissing respiration. Urine is first greatly increased, then diminished in quantity. It is pale & clear early in the disease, & generally free both from Albumen & casts. In a short time a few casts are prese-

table, & then a slight trace of albumen, with a specific gravity of from 1017 to 1015. Bloody urine is visible to the naked only in about one out of ten cases, & is therefore not very common.

Casts are less abundant than in tubular nephritis, & are found on allowing the urine to stand. They are coarse granular, large, opaque & conspicuous, & are composed of altered fibrin; the granular casts of the first form being totally different in appearance. The kidney may be extremely disorganized whilst the albumen amounts to a mere trace.

Treatment is only palliative as the disease is almost very far advanced when the patient first applies for advice.

The diet should be chiefly vegetable, & alcoholic stimulants may be moderately used. Complications should be met as they arise.

Dropsy is to be treated by diuretics changed until the right one is found. Decoction of Scoparium ℥iij or ℥iv at a dose is the most effective; or small doses of digitalis, squill or juniper with bicarb. Potass, or nitre. If the oedema is not removed by such remedies, purging & diaphoretics may be employed; hydragogue purgatives as Sulp. jalap. bit. or bicarb. Potass may be used occasionally at regular intervals. Vapor baths are better borne in this form than in hydrothis. For dyspepsia regulate the diet, & use nitric or Hydro-

The state of the kidneys is then incurable, & the treatment should be directed to the consequences. Cleanse the system & treat symptoms. Change of climate is one of the greatest helps. Promote cutaneous action by flannel, exercise, & by the hot air bath at intervals.

This treatment is to improve the general health, not to cure the disease. It is most efficacious when the urine is not very scanty. By this means we prevent the accumulation of the deleterious substances which the kidneys fail to excrete.

Tinct. Chlor. Iron & Acet. Iron are the best preparations of iron to use, with or without Liq. Amm. Acet.

chloric acid, or Strychnia with Calumba.
For vomiting after meals, the mineral acids; Strychnia, prussic acid, creasote, brandy, soda water & ice, &c. will afford more or less temporary relief.

As anaemia is less marked in this form, depletion is much better borne; & a brisk purge of Calomel, a strong vapor bath, or even a free bleeding will often rescue the patient from the impending jaws of death.
In most cases opening the bowels & using stimulants is best. Opium should not be used in the form of Albuminuria.
When Bronchitis intervenes use Antimony with ammonia in acute, & ammonia with squills & senega in chronic cases.

Lardaceous Infiltration

is the 3rd form of Albuminuria & is a waxy degeneration of the kidney. It is a general disease due to a change in the blood; liver, spleen, capsules, kidneys, lymphatic glands, lining membrane of the alimentary canal, membranes of the brain & spinal cord, so being all affected in some degree. This disease is most common from 20 to 30 years of age, but may be seen at all ages & in both sexes.

Causes. By far the most frequent cause is protracted suppuration; whenever this exists the disease may be looked for. The blood becomes deteriorated & exudes a kind of amyloid matter

through the coats of the arteries, which thence passes into the organs mentioned. This exudation is in fact dealbolized fibrin; for the pus, which is a highly albuminous fluid rich in alkaline matters, carries off the albumen & alkalies of the blood, giving the pt a relative superabundance thereby causing the exudation. Iodine, which gives a yellow reaction with the normal tissue, gives a reddish brown with the amyloid deposit. Fatty degeneration is a common associate of amyloid change in the kidneys.

Symptoms. The diagnosis of this disease in life is comparatively easy. There is severe headache lock, albumen in the

urine following parturient discharge, is accompanied by oedema; the urine perhaps being excessive in amount notwithstanding the oedema.
The liver is enlarged & there is [illegible] diarrhoea.

Usually the first symptom is increase of urine with natural nutrition & thirst, then gradually oedema comes on the ankles & eyelids more in the morning. Oedema & increase of urine are not [illegible] the same time, which does not happen in the other forms. There is seldom excessive albuminuria but a large amount may occur. Dropsy [illegible] down the dro-thorax [illegible].

The frequency and severity of diarrhoea & vomiting are characteristic of this disease. The former is occurs seldom in the other forms of albuminuria but is the most frequent & fatal result in this. The passages are profuse & watery, but there is no pain or griping: they come on [illegible] but surely reducing the patient.

Sometimes there is epistaxis, & there is also a tendency to inflammation of the lung & pleura. [illegible] due to uraemia as convulsions [illegible] are uncommon.

Urine [illegible] with a low specific gravity. Sediment [illegible] appears in minute quantity [illegible]

gradually until there is a fatty coagulum. In the latter periods it is generally diminished owing to a concomitant catarrh, or to the blocking up of the tubes by the exudation

Casts appear early whilst there is a mere trace of albumen and gradually increase in number. According to Dickinson this common absolutely distinct of this form, but simple fibrinous casts especially belong to it. Hartshorne says that hyaline casts are common only in this disease & are the most characteristic of it. The albumen is less abundant than in nephritis; more so than in chronic degenerative

Treatment is precisely the same

curative. We must prevent or arrest the discharge: the mischief will extend itself as long as the drain continues, but no longer. Further changes may take place in the parts already involved, but those which have taken place are safe. The means of arresting the discharge are chiefly surgical. If it is from a limb, as from necrosis, caries, &c. amputation is preferable to resection.

When a suppurative drain is inevitable, try to counteract the effects by an animal & albuminous diet, with stimulants moderately, as eggs, beef tea, jellies, &c. combined with an acetate or citrate of potash or water. If the first stage of disease has passed we must treat symptoms.

Good food, Sent. Tonics, & Syr. Ferri Iod, with nitro digitalis & Iod. Potass. If the diarrhoea be very profuse & the oedema slight omit the diuretics.

If the patient has had syphilis or sore with Iod. Potass. In this form & open baths are benefial towards the absence of uraemia, unnecessary.

Diarrhoea is the worst symptom. Opium in such cases may be used without fear, often the greatest benefit is derived from using laudanum in doses of gtt. x to xx with Iron & diuretics. There is not the same intolerance of opium in this as in the other forms of albuminuria; & if it alone fails combine it with Iron, nux vomica astringent or Mine & Colchicum.

If these also fail we resort of Lead or Sulphate of copper which are the most efficacious drugs for the end.
For the oedema we must use diuretics & stimulants, but in an emergency even hydragogue purgatives to thoroughly clean out the bowels.

Comparison.

Tubular nephritis is a disease of youth, but most common under ten years of age, occuring however in middle life, but unknown in old age.
Gran. Degen. belongs to middle life & old age being most common & most fatal between fifty & sixty.
Depurative albuminuria is most frequent between twenty & thirty but occurs at all periods of life

except in anoy. Hematuria & Sanguineous Stools seem to belong most especially to hepatic disease, rare in the other forms.

Dropsy & its results are by far the most frequent in the 1st form, rare in the 2d than in the 3d in which it is not very common.

Affect of Respiratory Organs: Bronchitis, with the complication of Bronchitis, which is more common in Gran. Degen. in which also affections of the Heart lat. plan. Hypertrophy of the heart is almost unknown as the result of any disease except Granular Degen. also Hemorrhagic Endocarditis, depending upon changes in the structure of the valves, are seldom found in the acute forms of albuminuria, but are more liable to result from the atheromatous deposit of Gran. Degen.

than from the mottled thickening of the amyloid change of the 3rd form.

Diarrhoea belongs to Diparts infiltration & is almost invariably due to the amyloid degeneration of the mucous membrane of the alimentary canal.

Both diarrhoea & vomiting are due to the cause or to uraemia.

Uraemia is the most frequent & fatal result of granular Degeneration, whilst inflammations cut off most of the cases of hepatitis.

Blood in albuminuria. In general the albumen & corpuscles are diminished. Water, fibrin, salts [illegible] & bases are increased. Urea & the [illegible] are superadded. [illegible] of all the

varieties. The former impression that urea & uric acid were preformed in the blood & excreted by the kidneys, is fairly disproved by recent experiments. It is now known that they are manufactured in the kidneys from the urates & extractives of the blood. Some say that carb. Ammonia is the poisonous agent in uremia; but according to other theories it is the potassium salts found in the blood. It is the potassium salts changes, it is moreover too freely excreted by the lungs to accumulate to a dangerous extent.

In a case of albuminuria the microscope is invaluable & almost indispensable for both treatment & diagnosis. Without it it is difficult to tell from day to day,

whether the case is likely to improve or to become hopeless. As the disease now remains stationary we ought to examine the renal debris from day to day to assure ourselves of the changes which may be taking place in the kidneys. We will thus arrive at a more exact diagnosis & be better able to give the Prognosis of the case.

AN

Inaugural Dissertation

ON

Intermittent Fever

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

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Indeterminate Forms

Indeterminate forms is a term applied to certain fractions which, when [illegible] by the substitution of given [illegible] for the variables [illegible] the numerator and denominator [illegible] the distinctive form of the [illegible]. It is frequently [illegible] equal, and [illegible] is [illegible] in which it occurs. This is one of the [illegible] which [illegible] only in their respective [illegible] signification, it may be [illegible] some [illegible] fractions [illegible] with its [illegible] to [illegible] the [illegible] which [illegible] [illegible] happens [illegible]. Each [illegible]

of the strong, yet the weak, the
big, and the small, the
[illegible]
other in the [illegible]
Very often the [illegible]
[illegible]
[illegible] the [illegible]
[illegible] the [illegible]
physical or [illegible]
there is a [illegible]
and stretching [illegible]
the [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

is sometimes applied to it.
Breath the slight and fleeting
sensation of crepitus felt when
bones decided and rough are
the joints are [illegible] agi-
tated, the tell tale [illegible]
shivings are sometimes so violent
as to cause the bed in which
the patient is lying to shake.
On account of the internal congestion
there is often a feeling of fullness
about the epigastrium, the
pain is less acute, the pulse is
sometimes small, accelerated, at
other times slow, often irregular. The
stomach is often disordered, and
along with the ingesta [illegible]

large quantities of blood, and the which is necessarily begun the control of medicines, but which is often arrested when every thing seems to fail, by small quantities of calomel administered every half hour. The secretions are usually diminished, the bowels constipated, and very small quantities of urine and, which is frothy & opaque. The continuance of symptoms as mentioned appearances, and if the patient have not experienced a previous attack there is often considerable apprehension of danger. Often these symptoms have harassed the patient for a variable length of

tion, they give way to the formation
to the secretion [illegible]. The secretion
which now comes on is not always in
proportion to the degree of the preceding
stage. When the [illegible] passages
well, [illegible] chills alternate with
flashes of heat, [illegible] sensation
of warmth [illegible] of the [illegible]
[illegible] diffused [illegible]
the whole body; but [illegible] of
the patient now [illegible] sensation
of cold strikes through the frame.
The secretion [illegible] the
patient is [illegible] with the
[illegible] of violent fever, which
is accompanied [illegible]
with delirium [illegible]

[illegible] chills. The heat
[illegible] increases, the tongue thickens, the
[illegible] full of [illegible], the respira-
tion [illegible] the
thirst intense, the patient [illegible]
[illegible] which are [illegible] to be
repeated [illegible] the piece of [illegible]
warm applications which were [illegible]
[illegible] called for at first, are
now rejected for the general in-
fluence of a breeze. It gives [illegible]
for the patient to remain [illegible]
comfortably, but sweat is not the
easy and length a change is ob-
served which gives him great relief.
The febrile symptoms [illegible], the [illegible]

becomes moist, and a [illegible]
[illegible]
[illegible]
[illegible]
& frequency, the pain [illegible]
[illegible] are restored, & the [illegible]
was scanty is now [illegible]
[illegible]
[illegible]
[illegible]
[illegible] sleep [illegible]
[illegible] he awakes refreshed and free
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

There are many curious facts to be observed in connection with intermittents, the most singular of which perhaps is the recurrence of the paroxysms which come on at regular periods and often with singular punctuality. A solution of this circumstance has recently been the subject of pathological inquiry, but no satisfactory explanation of it has ever been given, and we must be content for the present to know, to accept it as an ultimate fact. The length of the intermission is in direct proportion to the duration of the paroxysm. The length of the intermission, though constant in each individual case, differs

[illegible] in different cases, and from this circumstance is based the division of the disease into types. For ordinary purposes these may be divided into three. The quotidian, the tertian and the quartan type. Physicians have described several other groups, but the above constitute the principal varieties that are met with in malarious countries, and are in all their variety in all times. The paroxysm of the quotidian generally begins in the morning, and recurs every day at the same hour; that of the tertian every other day, and the quartan every third day. In the

[illegible] perfected. When the disease has lasted for some time [illegible] is called the quotidian accession, the paroxysm comes back to begin later & later every day until they finally cease, and the patient comes to effect, this is called periodicity. The [illegible] is [illegible] closed, and the paroxysms are said to anticipate. By these means the quotidian may be converted into a remittent, the tertian into a quotidian, & so on. The phenomena of anticipation of the fit depend, here also relative to prominent effects some general law in the treatment. There is some [illegible] of

opinion among authors, as to the relative frequency of these types. The gonorrhœa, according to my observation occurs most frequently, the tertian is often seen [illegible] the disease is rife. It is very difficult for want of sufficient data to estimate the duration of the disease. Its treatment is now so well understood as not to allow it to [illegible] for a [illegible]. When the patient is [illegible] for the influence of the [illegible] the disease may [illegible] exposure only, but it [illegible] protracted over a space of [illegible] months, or even years. In [illegible] it may be right to [illegible] a [illegible]

[illegible] the system, and that it was wrong to stop it too soon.

There is an old English proverb which says, "Cure agues in the spring, if you will, but let alone of them in the fall." [illegible] that the prevalent notion that ague is the salutary effort of nature, was based rather upon the difficulty with which physicians succeeding in curing it, (not being acquainted with its specific) than [illegible] the [illegible] of curing it, and the [illegible] induced thereby that the disease should be left to itself. [illegible] might [illegible] to [illegible] the [illegible] of the [illegible] and the [illegible]

[illegible] to them in every degree [illegible].
It is a fact [illegible] to be observed even by the most ignorant. All who have lived in a [illegible] district are familiar with the [illegible] sallowness of skin [illegible] of fever produced by the [illegible] subjected to its deleterious influence. One of its most [illegible] effects is enlargement of the spleen. The image is sometimes so [illegible] in bulk as to extend as far down as the crest of the ilium [illegible] it is [illegible] to be seen through the integument of the abdomen. So familiar is this to the [illegible]

of the malign that in common parlance it is termed the ague cake. This can easily be accounted for from the consequent congestion incident to the cold stage, which flow of blood must necessarily lead to hypertrophy & distension. Like mercury, malaria has a very deleterious effect upon the red globules of the blood, causing their disintegration & diminution in quantity & it is to this fact that we attribute the cause of the loss in those who have been affected with the malarious disease. A very frequent result of protracted intermittent is dropsy, which exists in general anasarca. The watery condition of

the blood, so often an attendant result of this disease is probably the most fruitful source of this last condition. Congestion of the veins of the abdominal viscera in consequence of obstruction in the liver & spleen will give rise to ascites in seeking to relieve themselves by effusion. This form of dropsy is often obstinate, and sometimes incurable; for though relieved by remedies it is apt to recur so long as the cause continues. From the frequency of it [illegible] it generally also [illegible] it might be supposed that [illegible] induced [illegible] of intermittent [illegible] in this.

But such is not the fact. The
cause is thus a special contagion
agent, or rather a [illegible]
is logically inferred from the peculiar
character of the disease, its limitation
to certain localities, & the fact
that it is confined by [illegible]
having a specific effect. Lancisi,
an Italian writer, was the first to
attribute it to insects as
its cause. He declared the air to
be generally adapted. He thought
it much heat & moisture, then we
usually find it [illegible]
climate, & such regularly [illegible]
& decay. The [illegible]
the fact [illegible]

the putrefaction of vegetable matter
in water is thus required to the
formation of the poison that rises so
commonly in swampy land.
But this something [illegible] vegetable decomposition [illegible] its formation is so frequently [illegible] the disease being confined to localities, whereas in certain districts & countries in which vegetable decomposition must take place [illegible] the disease never occurs. If [illegible] in connection with vegetable decomposition it must depend on [illegible] circumstances peculiar to certain localities. The [illegible] principle of the malaria [illegible]

the test of the most delicate chemical agents, & which may therefore be adduced in support of one or other of the supposed causes, remain unproved satisfactorily the morbifacing cause of intermittent fevers, we are left yet in the dark, & cryptic at least as ignorant of the agent, than we really it is left to future research.

Recently a very valuable paper from the pen of Dr. J. H. Salisbury has appeared on the cause of intermittent & remittent fevers. In this he claims to have ascertained that these fevers are caused by the introduction into the system of certain species of algoid fungi

called Palmella, which belongs to the lowest Kingdom vegetable organisms, I base the discovery upon the following facts. A microscopical examination of the salivary secretion & mucous expectoration in the morning of persons living in a malarious region showed cells of an algoid type resembling at first those of the palmellae; to be the only constant bodies present; and these bodies were invariably absent when the mucous secretions were examined from persons residing above the summit plane of ages. These palmelloid cells were allowed to suspending plates of glass under a bell-glass and were weighed in fifteen other

malarious or [illegible] to
arise. The so called ague fever is
invariably found in [illegible] localities
in which intermittent fevers prevail;
and in no instance are they found
where this disease did not occur.
Cakes of soaped soil from a malarious
locality which succeeded with the
fabulists, were carried to a high,
hilly, district, situated five miles
from any marsh or swamp, where
a case of ague had never been known
to occur. These cakes were spread
on the sill of an open second story
window opening into the sleeping
apartment of two young men.
Both the young men had entered illness

foreign other members of the family
being affected? Dr. Blair says assuming
there is no case of alternation in these
facts, it would seem to be a legitimate
conclusion, that intermittent fever
is caused by certain morbiferous
productions which are eliminated
by the Kidneys, & if it be substan-
tiated, will form one of the most
interesting & important events in
the medical history of the present
century. In [illegible]
the discovery offers no difficulty
[illegible]
ated with other [illegible]
[illegible]
the [illegible]

be instituted, need not be mistaken.
Once or twice [illegible] fever
offers a very favorable prognosis.
If it continues longer or more frequently, it may prove mortally
serious by inducing organic disease
of the mucous membrane.
These however are very rarely
[illegible] fatal. The [illegible]
from the insidious [illegible] of the disease,
often, though the observation of the physician,
and should always be [illegible].
For the cure of intermittent fever
medicine possesses specifics. If any
remedies are entitled to this epithet
[illegible]. It is [illegible] to arrest
the disease as speedily as [illegible] the

For this purpose the Sulphate of Quinia is almost universally resorted to. Before the administration of this drug it was thought necessary, in some cases, to purge the patient prior to its exhibition. This was done by subjecting him to the influence of mercurials, cathartics, emetics, & sometimes by copious bleedings; measures which were not only unpleasant, but actually dangerous. I do not mean to say that when the bowels are hopelessly loaded with fecal matter that a cathartic to get rid of these will not be useful, but on the contrary will be necessary.

But when given [illegible] of [illegible]
the [illegible] of the [illegible] of the [illegible],
[illegible] the [illegible], it is [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] consideration of no small importance,
[illegible] the immediate employment
of the [illegible] [illegible], [illegible]
[illegible] of an [illegible] [illegible] [illegible]
[illegible] simple, assuming often
[illegible] [illegible] [illegible] [illegible]
forms, which is [illegible] [illegible] [illegible]
off the features, especially of the
system [illegible] [illegible] by the
[illegible] effect of [illegible]
The time which would [illegible]
[illegible] [illegible] [illegible] [illegible]

just after the paroxysm which has passed, so that the remedy may have time to act before the commencement of the next. To secure this, it must be given in gradually increasing doses until cinchonism is induced, which is evidenced by tinnitus aurium, headache, giddiness, &c. This mode of treatment will in most cases be sufficient to arrest the disease. Should the paroxysm recur, the same treatment is to be pursued. It will be found necessary at times to combine the use of Quinia in small doses after the paroxysms have been interrupted. If anaemia exist a chalybeate should be conjoined; the following is a good pill for this purpose: ℞ Quinae Sulph. gr.

Ferri Protocarb. gj.
Pulpi Pyri q.s. ad Pilulas

When the immediate effects of the
are desired, it should be given in
solution, its solvent being a mixture
by the addition of a minim of
aromatic spirits, in order to get rid
of the salt. On account of its bitter
it is sometimes preferred in pill form,
when thus giving, they should be
carefully prepared. When the
cannot be retained in the
stomach, rectal, or vaginal, are
efficient modes of administration.
It is given in the Medical
Hospital with the greatest success
case especially when the patient has
previously taken opium, the

Hydro Sulphate of Soda is given every 2 hours until 3 doses have been administered. The Sulphate of Iron being substituted, an hydro chloric injection of gr. iv of the salt may be given on the morning of the fourth day, with the effect of pulling on and to the disease. There are various secondary of the preparations of cinchona, some of which are given with advantage in conjunction with bitters, except in cases of idiopathic fever in the first of the patient, should never be substituted for the remedy. Diet for the cases having is to be regulated, as nice should never be preferred. Fruits are not satisfying in the form generally employed, given in doses of 1 or 2 drops three times day. There are other remedies said to be of some efficacy, but

which, for the purpose for which it exists, to the magnificent [illegible] has been applied with, in general, a [illegible] for the dog, the results of which have not sufficiently encouraged its adoption. So far only the external measures of treatment have been considered. Palliative measures are invaluable during the paroxysms & have been found that a full opiate administered at the beginning of, or just before the cold stage, will prevent, at least modify, & lessen the severity of the disease. Chloroform also given in 35 drops is highly recommended and by Dr. L. Hamilton of Dublin is said to be competent to arrest the chill & induce a refreshing sleep from which the patient

awaken without prostration. In the most
pain however except the chill pass on to
the prostrating of great severity, it will be
sufficient to use external warmth by means
of hot bricks & bottles of hot water applied
to the extremities, resorting at the same
time to frictions with capsicum, to invite
the blood to the surface. Stimulants
may be given internally if indicated
by the condition of the pulse, can hence
by the stomach. During the hot stage
nothing is more refreshing to a patient
with more gratitude by the patient,
than cushed ice frequently administered. Relief is also often procured
where the skin is hot & dry by
sponging the surface with vinegar

and water in equal proportions. When the
Sweating stage comes on the ice should
be suspended & proper care taken to
avoid exposure to cold.

Elijah Williams
"